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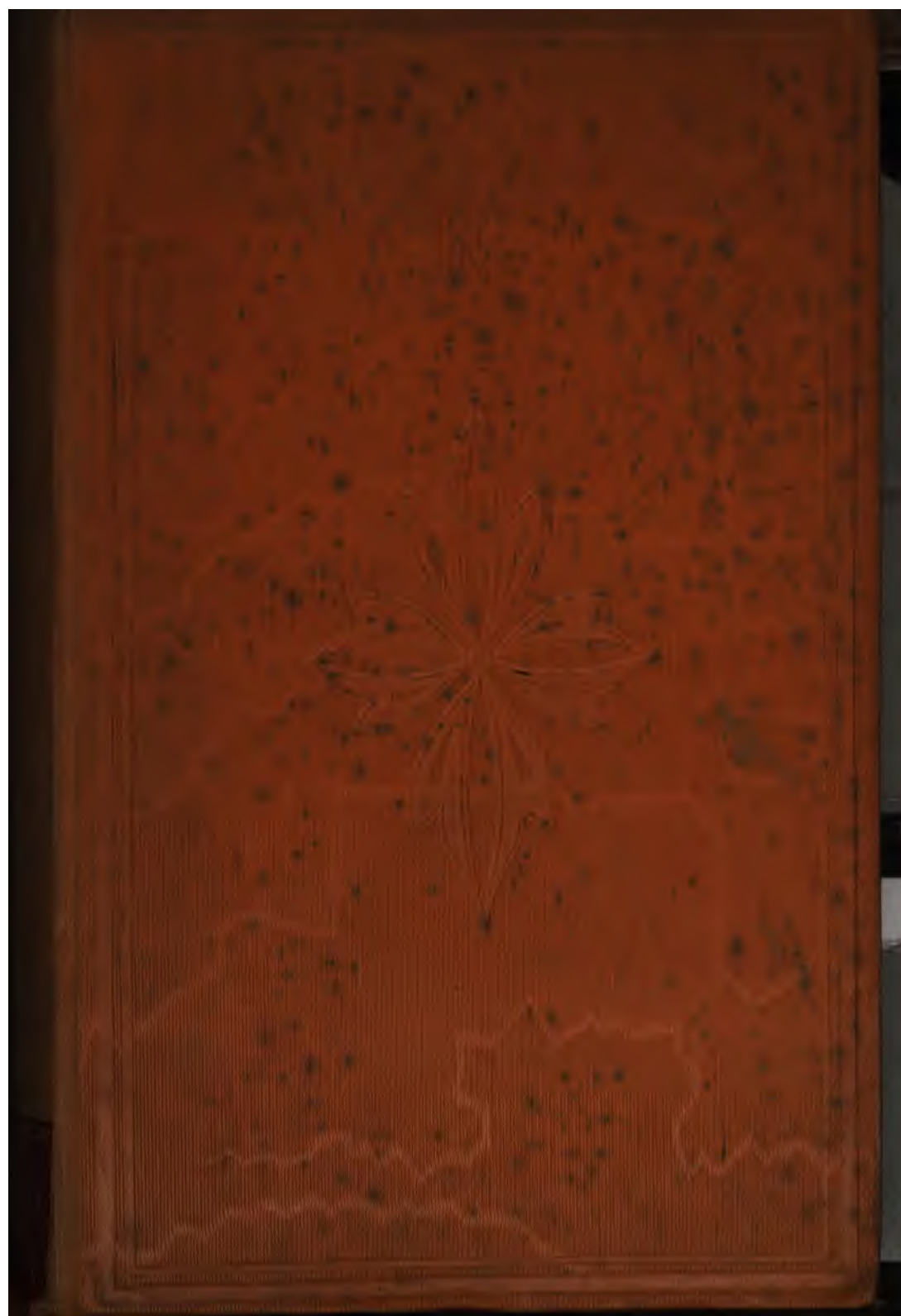
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THE CRIMEA AND ODESSA:

JOURNAL OF A TOUR,

WITH AN ACCOUNT OF THE CLIMATE AND VEGETATION.

BY DR. CHARLES KOCH,

AUTHOR OF 'TRAVELS IN THE CAUCASUS.'

TRANSLATED BY

JOANNA B. HORNER.



Tatar Wagon of the Crimea.

WITH A MAP OF THE CRIMEA.



LONDON:

JOHN MURRAY, ALBEMARLE STREET.

1855.

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AND CHARING CROSS.

TRANSLATOR'S PREFACE.

THE Journey in the Crimea and Southern Russia narrated in the following pages, and only published within the last few months, was performed by Professor Charles H. E. Koch, Ph. D., M.D., in the autumn of 1844, at the close of a still more extensive tour in the Caucasus, which was undertaken for scientific objects, and for which he received assistance from the Russian Government and the Academy of Sciences in Berlin. He also visited those parts in the year 1836, but the investigations in which he was engaged were then suddenly interrupted by an attack of fever, which compelled him to return home ; and it was with a view of completing these that the second journey was undertaken. Dr. Koch is a Professor in the University of Jena, but, in order to work out the results of both his tours, he removed to Berlin, where he is now resident, and, at the request of the Minister of Public Instruction, was permitted to deliver lectures "*honoris causa*" at the university of that city. He is the author of several books and pamphlets, chiefly in connexion with

botanical science, and with especial reference to his travels. Among them I may mention—

‘Reise durch Russland nach dem Kaukasischen Isthmus in dem Jahren 1836-38,’ Stuttgart und Tübingen, 2 bd. 1842-43.

(Travels through Russia to the Isthmus of the Caucasus in the years 1836-38.)

‘Wanderungen im Oriente, während der Jahre 1843 und 1844,’ 3 bd. 8vo.

(Wanderings in the East during the years 1843 and 1844.)

‘Beiträge zur Flora des Orientes,’ 6 Hefte, 8vo. 1848-1852.

(Contributions to the Eastern Flora.)

He has also made a Map of the Caucasus and Armenia in four sheets, Berlin, 1850, exhibiting those countries, 1st, in their political relations; 2nd, ethnographically; 3rd, with their geographical distribution of plants; and 4th, with their geological features.

P R E F A C E.

No country in Europe is perhaps so frequently misapprehended as the Crimea, and even in Russia, especially in St. Petersburg, equally incorrect notions are entertained respecting it as by ourselves. When it was first seized by Catherine II., and she was desirous of becoming personally acquainted with a peninsula so celebrated on account of its fertility as well as from its romantic and beautiful scenery, the great empress, during her residence in those parts, was intentionally deceived, on grounds which are quite inexplicable to me, and temporary villages were erected on all sides wherever the imperial procession passed. Had she remained a longer time she might probably have had an opportunity of convincing herself of the true state of affairs ; but she was suddenly compelled to abandon her unostentatious cottage in Sevastopol in order to escape as rapidly as possible from the lawless designs of fanatical Tartars. Thus, century after century, the erroneous opinion of the great fertility of the Crimea

has been maintained, and has not even now been sufficiently refuted by the more accurate accounts of travellers, especially by the works of Dubois de Montpéreux, who was, alas! too early cut off, or those of Prince Anatol Demidoff. Added to this, we find that on the maps of larger scale, which have been called forth by the events of the day, and rapidly compiled and published, not even omitting those in Paris, which have been reduced from the large one of Prince Demidoff, numerous places are inserted, most of which do not exist, and are calculated to strengthen the false impression of the great fertility of the peninsula. The error may be explained by the fact that the Tartars of the plain are even at the present day nomades during the larger portion of the year, and change their place of residence at short intervals of time, according as the needful pasture is required by their flocks. In general, not only are these places inserted upon the maps as villages, but we even find a number of additional names introduced which date as far back as the period when the Crimea was under the dominion of the Tartar khan.

It may not therefore be an unwelcome task to read the description of a journey in those parts to which the attention of Europe is so much directed. Omitting all political discussion, I have only offered a simple

narration of the condition of this interesting country, as it was my belief that, in order to give a distinct view of the capabilities and conditions of the Crimea, it was advisable to pursue the same path as on my previous travels, and merely reproduce faithfully what I had seen and observed with my own eyes. Should this exact description of my travelling route appear wearisome to some who might wish to hear a more exciting succession of events, I still believe that the plan I follow is the only one by which we can obtain a correct knowledge of the peninsula. In order that the whole might be better understood, I have given two chapters in the Supplement, illustrative of the natural history of the Crimea and northern coast of the Black Sea, which are calculated to render my previous descriptions more complete. In the same manner an ideal profile of different elevations, which I have also inserted, will give the general reader a clear notion of the peculiar formation of the Coast Range in the Crimea.

I recommend this small volume, the keystone of my travels, to the same kind consideration with which my previous writings have been favoured. The acknowledgment which has been paid to my efforts is a great compensation for the various sacrifices I have voluntarily made in the cause of science, and in acquiring a

knowledge of those countries so little and in part entirely unknown to Europeans, yet forming a portion of that East which is now in all respects of such vast importance.

CHARLES KOCH.

Berlin, 16th October, 1854.

CONTENTS.

CHAPTER I.

DEPARTURE FROM TAMAN. KERTCH.

General observations — Hospitality of the Caucasians — The wanderings of Ulysses — The Cossacks and their expeditions on the Black Sea — Their songs and tales — The Cossacks guards of the frontier — Kertch and her commerce — Panticapæum — The Museum — The skull of a *Macrocephalus* — Tmutaracan — A mausoleum of the latest period — Barrows — Prince Herheulidse — Ferro-cyanide . . . Pp. 1-24

CHAPTER II.

THEODOSIA (KAFFA) AND KARA-SU-BASAR.

Pampas and Steppe — The peninsula of Kertch and tongue of land Arabat — Tartars — Theodosia — Mr. von Smitten — Kaffa — Turkish barbarities — Desolation of the Crimea — The houses and situation of Theodosia — A German inn — Crimean wines — People of various nations — The Jews — The condition of the ground — Flocks of sheep — Camels — Post-carriages — Kara-Su-Basar — Artisans — Schirinfelsen . . . Pp. 25-48

CHAPTER III.

SIMFEROPOL.

The Taurian hotel — The Government — Tartars — The Kalga Sultan — Sahin-Ghiray — Ak-Metchet — The New Town — The cathedral — Bazaar — A Courland Jew — Cattle — Fruit and orchards — The valley of the Salghir — Apples — Mr. von Steven — Mr. von Hübner — A Russian labourer — Tartar management — Departure — Character of the country . . . Pp. 49-68

CHAPTER IV.

BAKTCHI SARAI AND CHUPHUT KALEH.

The ravine of Juruk Su — Dress of the Tartars — Kebabdshi — Ekmedshi — The palace of the Khans — Hall of Judgment — Harem — Maria Pototzka — Fearful vengeance — The Fountain of Tears — Mausoleum — A Tartar cemetery — Gipsies — A rock church — The Jewish fortress — Rabbi Solomon Beim — The Karaïtes — Adherents to the Talmud — Historical account — The synagogue — The Valley of Jehoshaphat Pp. 69-94

CHAPTER V.

SEVASTOPOL.

The tongue of land — Relative position of the ground — Chersonesus — The Goths — Origin of name Sebastopol — Harbour — Fort Nicholas — Docks — Quay — Library — Church — Kosarsky — Catherine II. — Boulevard — Fleet of the Black Sea — Tchernaiia Retchka — Inkerman — Canal — Tunnel — Caverns — Ravine of Otchakov — A superannuated sailor Pp. 95-123

CHAPTER VI.

BALAKLAVA AND THE COAST-RANGE.

Ancient Cherson — Balaklava — The Læstrigonians of Homer — Parthenium — Expedition by moonlight — Baidar — The new road — A mountain-pass — Beautiful view — Vegetation — Kirkineis — High prices — The coast-range — Its structure — Precipice of Jura limestone — Yaila Pp. 124-145

CHAPTER VII.

ALOUPEKA — MAGARATCH — NIKITA.

Simeis — Aloupka — Prince Woronzoff — Barren neighbourhood — The gardener — Kehbach — The grounds — A Plutonic eruption — Foreign shrubs — Deficiency of grass-plots — The castle — A rapid postilion — Fine view — Orianda — Gaspra — Livadia — Yalta — Magaratch — Prince Galitzin — The Princess, and her artistic taste — Massandra —

CONTENTS.

xi

Nikita—Mr. von Hartwiss—Cultivation of the vine and fruit-trees
—Crimean wine—Foreign trees—The cork-tree—Major Frömbder
—A storm Pp. 146-181

CHAPTER VIII.

ORIANDA AND LIVADIA.

The gardener's house — Mr. Rögner — Volcanic eruption — Fine view —
Vegetation — Three excursions — The first cliff — The tall juniper —
The castle—Plantain-tree—Two blocks of rock—The deer-park—
The second and third cliffs—Taurian pine—The arbutus—The fourth
cliff—Ivy—Mount Megabi—A storm—Livadia—Count Pototzky
—Beautiful grounds—The castle—View—Plots of turf and groups of
shrubs and flowers—Absence of grottoes and arbours—Little Orianda
—Juniper with yellowish-red berries—Parasite on the mistletoe—Cape
Aitodor—Lighthouse—Herbarium of Crimean plants . Pp. 182-214

CHAPTER IX.

JOURNEY TO ODESSA.

Departure — Aidanil — Bear Mountain — Ourzouf — Condition of the
ground — The eastern and western divisions of the southern coast—
Dialects — Aloushta — The Iron Gate — Taushan Basar — The Tent-
Mountain (Tchadir-Dagh) — The Salghir — Orchards — Simferopol —
Difficulties about a passport — Uniformity of the plain — Expeditions of
the Tartars — Perekop — Aleshki — The Saparogas — Kherson — Nicolaev
— Professor Knorre — The Admiralty — Odessa . . Pp. 215-249

CHAPTER X.

ODESSA.

Unpleasant incidents on the journey—Business about a passport — Dr.
Pseudo-Rosen — General Aglostishef — Comparison between the
colonies of Russia and those of England and North America — Odessa
seen from the Steppe—Boulevard—Great flight of steps—Plague
of 1838 — Statistics — The winds — Chutors — Harbour and road-
stead — Odessa a medium of communication with the interior — Her
commerce — Departure — Bessarabia — Lemberg — Cracow — Arrival
at Jena Pp. 250-270

SUPPLEMENT.

I. CLIMATE AND VEGETATION OF THE SOUTHERN COAST OF
THE CRIMEA.

Geographical position—Summer—Spring—Autumn—Winter—Peculiarities in the vegetation—Foreign and indigenous plants Pp. 271-292

II. CLIMATE, SOIL, AND VEGETATION OF SOUTHERN RUSSIA.

The three zones in the East of Europe—Steppes—Deserts—Meadows—Pastures—Pampas—Conditions of the soil—Uniform plains—Substratum of granite—Chalk formation—Steppe limestone—Temperature—Precipitations—Great drought—The four seasons—Snow-drifts—Snow-showers—Tumuli—Vegetation—Feather-grasses—Pampas-plants in general—Steppe-vegetation—Tall herbaceous plants—Burjan—The Steppe-jumper—Low herbaceous plants Pp. 293-323

THE CRIMEA AND ODESSA.

CHAPTER I.

DEPARTURE FROM TAMAN.—KERTCH.

General Observations — Hospitality of the Caucasians — The wanderings of Ulysses — The Cossacks and their expeditions on the Black Sea — Their songs and tales — The Cossacks guards of the frontier — Kertch and her commerce — Panticapæum — The Museum — The skull of a *Macrocephalus* — Tmutaracan — A mausoleum of the latest period — Barrows — Prince Herheulidæ — Ferro-cyanide.

PREPARED to embark for the Crimea, the goal of my wishes, the promised land of the Russians, after having already accomplished two long and perilous journeys in the East, I stood on the shore of the peninsula of Taman, once so dreaded from the robberies committed by its inhabitants. Looking back I beheld the last outliers of the Caucasian chain of mountains: all that I had experienced in my wanderings there passed before my mind, and, in spite of my ardent desire to see the beloved ones from whom I had been separated during an absence from home of a year and a half, I

still felt it hard to part for ever from a country which had become endeared to me on nearer acquaintance. I had almost uniformly experienced kindness from the inhabitants, and had scarcely met with any annoyance, every one contributing his share to make my stay agreeable in this far-distant land. In the very places where most anxiety had been felt on my account I had fared best, in those districts notorious for robberies in the centre of the Caucasian and Pontian mountains; and the land of the inhospitable Kurd alone failed in bringing pleasant recollections to my mind. When a Caucasian or Ossete received me in his hospitable house with the words, "You are master here, and I and my sons are ready only to do you service," the address was by no means a mere verbal civility, as is too frequently the case with us, but each member of the family was, in fact, thinking whether he could possibly read my wishes from my eyes, in order to execute them without delay.

One day, on reaching the first Grusian (Georgian) village, after a long absence amidst the then independent mountainous districts of the Caucasus, one of those beautiful, I might almost say Homeric figures, such as may frequently be met with there, addressed me in these words: "Master, permit me to knock out the teeth of our host!" I was not a little embarrassed, as I knew well enough that a Caucasian can execute his intentions with as much rapidity as he

resolves upon them. He had previously received me hospitably in his own house, and had killed a couple of swine to do me honour; but here I had only received a pair of fowls and some eggs, which, according to his notions of hospitality, was far too small an offering for a guest coming from the distant Firengistan (Europe).

Another time I happened to catch sight of a rare tree growing on a precipitous rock, and I was on the point of gathering a few twigs from it, when my guide stepped forward alertly and would not suffer me to expose myself to any kind of danger, saying, "Whenever anything presents itself which can afford you pleasure, command my services, I will readily fulfil all your wishes; but when I perceive there is danger awaiting you, I shall require your blind obedience; for it shall never be uttered as a reproach to me that I have not duly cared for the life of my guest." Soon afterwards the entire tree, from which I had only desired to gather a few twigs, was brought to me, and laid at my feet with these words, "Master, take now what your heart desires."

These few traits are sufficient to illustrate the character of the people. My attention had all along been attracted to the historical importance of the country. When civilisation was still cherished and maintained in Asia, the Caucasus was the important

barrier across which the neighbouring sons of the North but rarely succeeded in penetrating. Art and science now, however, are nurtured by the frigid North, and an improved state of civilisation passes from Europe to all the other parts of the globe. European civilisation at the present day has already taken root beyond the Caucasian mountains ; but almost as many years before the Christian era, as we now reckon after it, Asiatic civilisation had penetrated into the plains on the northern side, while, on the north-western extremity of the Caucasus, Indian civilisation flourished more than three thousand years ago.

A celebrated traveller, Dubois de Montpéreux, endeavours to transfer the wanderings of Ulysses to the Black Sea. Should it be objected that the bard of the Odyssey would have assuredly mentioned the Dardanelles and the Bosphorus, had those wanderings even partially taken place north of the Pontus Euxinus, and not to the west of the scene of the Trojan war, in the Mediterranean, we nevertheless cannot deny that the author of the '*Voyage autour du Caucase*' has very successfully attempted to give weight to his opinion. According to the usual acceptation, it was as little the intention of the poet to lead his hero into Italy ; and it is also much questioned whether the bard of the Odyssey was acquainted with the islands and countries about which he speaks, and consequently whether he

knew how, and where, they were situated. Some of the contradictory geographical errors might be explained if we adopt the hypothesis of the *Odyssey* being the work of several poets.

Two districts only can actually be determined with precision—the land of the Lotophagi, in which direction the north wind blew, and the land over which the Cimmerians ruled. The first is Egypt, the other the Crimea and all the northern coast of the Black Sea. As is well known, the ancient Cimmerians considered themselves dwelling in a gloomy land, “wholly wrapt in mists and darkness, where Helios never looks down with his illuminating sunbeams.” The ancients were unable to transfer Cimmeria to the southern coast of France, and yet, if Sicily is determined to be the island Trinacria, it must be placed there. That the above-mentioned island did in fact once bear the name of Trinacria is beyond all doubt, and might also be the only reason why Ulysses is allowed to be driven so far west in the Mediterranean Sea, after quitting the land of the Lotophagi, namely, Egypt.

We know by the Argonautic expedition that the ancients were acquainted with the Black Sea and its coasts, but we are not informed that at the period of the Trojan war, or shortly afterwards, they had any knowledge of Italy and Sicily. In addition to this, Circe, the sister of Æëtes, the King of Colchis, lived

in *Ææa*, and Ulysses only required one day to reach the dominions of the Cimmerians. If we imagine *Ææa* to be near Sicily, as is frequently supposed, then the bard of the eleventh song could not even have possessed the most superficial knowledge of the situation of Cimmeria. Besides this, the sister of *Æëtes* would not have lived many hundred miles distant from her brother, but probably in his immediate neighbourhood.

On the coast of Cimmeria was situated the extremity of the deep gulf of Oceanos, and the entrance into the subterranean kingdom of Hades. The ejections of the mud volcanoes, associated with igneous action at Taman, might have been far more considerable above three thousand years ago than at present, and might then easily have given rise to the explanation of *Pyrphlegethon*, that river of the infernal regions into which fire flows. Farther, the legend of rocks which struck against each other, on the south of the Black Sea, and at the outlet of the Thracian Bosphorus, is, as it seems, older than the legends of those in Sicily. It is more than probable that the older bards of the Argonautic expedition understood, by their *Symplegades*, the same rocks which Homer designates by the names of *Scylla* and *Charybdis*. It is certain that it was not before a later period that they were transferred to the rocks at the straits of

Sicily. At all events, as I have said, this is an interesting explanation, which has likewise been borrowed, by Dubois de Montpéreux, from a French philologist, and it merits further consideration.

Among the passengers on board the ship which was to convey me from Taman to Kertch, the eastern peninsula of the Crimea, were some Cossacks, handsome young men, who were singing some of their national songs. The Little Russians, among whom the Cossacks are classed, are not alone known throughout Russia by their love of music, but also by their aptitude in singing, and their peculiarly melodious voices. In all the churches of the towns of Russia of any magnitude, the Little Russians form the choir, and are a substitute for the organ. Their voices, however, are not always distinguished by power and tone, but rather by the peculiar pathos which speaks to the heart, and the pious and religious sentiment more or less apparent in all their songs.

I only speak of the genuine Cossack, who, if not directly descended from those on the Don, or on the Dnjepr,* yet derives his origin from the Ukraine, an ancient Cossack possession. The Cossacks of former

* The name of this well-known river is pronounced as it is here written, and not Dnieper, as is usually inserted in geographical works.

days and of the present are essentially different. Those of the sixteenth and seventeenth centuries played an important part in the eastern portion of our quarter of the globe. Men thirsting after brave deeds on the Don and the Dnjepr united for common action. Like the Varangians and the Vikings of the North, they appeared in their light barks, and even disturbed the proud ruler of Stambul in the immediate neighbourhood of his capital. Trebisonde and Sinope were more than once destroyed by their predatory expeditions. Cossacks threatened the holy Serai,* the all-powerful Padishah, and plundered Constantinople. The proud rulers of the East and of the West, as the Sultans call themselves, came victorious out of their combats, and defied all Christian nations—and yet trembled before a handful of Christian adventurers. Those who threatened every moment to pour down upon Germany, who twice advanced as far as Vienna, were unable to check the depredations of the Cossacks in their own land. After one of those daring incursions which even threatened Sultan Murad in his own palace, he is said to have exclaimed, “All Christendom trembles before me, and yet a few Cossacks

* The Turks write *Serai*, not *Seraglio*, and with a sharp *s*; *Seraglio* is quite false, although introduced by the French. In the same manner it is Trebisonde, not Trebizond; Erserum, not Erzeroum.

deprive me of my rest." The invasion of the Turkish territory continued, even when the Crimea and all the northern coast of the Black Sea (consequently the mouth of the Dnjepr) acknowledged the Sultan as their master, and after every measure had been taken to keep back the Cossacks at the above-mentioned river, which, because they lived above its rapids, received the name of Saparogas. It was in vain that war-vessels pursued the flat-bottomed boats of the Cossacks to the entrance of the small rivers, or to the marshy shores, of the North. Even the two fortresses, Kinburn and Otshakoff (Oczakow), which were erected at the mouth of the Dnjepr, and intended to guard the egress and ingress, were as incapable of checking the incursions of the Cossacks, as the great chain drawn in a slanting direction still farther up across the river.

The watchmen of the chain heard the approach of their enemies during the darkness of night, and the cannons pointed to the threatened spot sounded from either side. It was not, however, the caiques, the barks of the Cossacks, which had moved the chain, but great stems of trees, sent out in advance by the bold adventurers, and which received the whole charge of the cannon. Now for the first time the Cossacks approached gradually, and with caution, and passed over the dangerous spot. In the daytime they concealed themselves among the reeds of the marshy

shores, or covered their boats with them, in order to evade the view of their enemies.

Still more difficult was the return, which could only be accomplished up the Dnjepr with the greatest danger, on account of the watchfulness of the Türks. To avoid them the Cossacks usually passed through the straits of Kertch into the Sea of Azov, and thence up the Don to the entrance of the Donetz. How far they went up this tributary river depended on the height of the water. As soon as navigation became impossible, the Cossacks carried their light barks upon their shoulders, often merely consisting of willows or poplars hollowed out, as far as the Samar, a tributary of the Dnjepr; and thus they frequently did not reach their homes till after three, four, and even six months' absence.

I sat down beside the singers and made them relate to me the deeds of their ancestors. The Cossack is justly proud of his history, with which we, alas! are too little acquainted. It would be well worth while if some one were to collect the tales as they exist in the mouth of the people, for they would assuredly supply many a gap in history. During the long winter evenings the father of the household loves to relate all his own adventures, as well as those which have been recounted to him in his youth; thus the history of the Cossacks is bequeathed from father to son. The Cossack who

related it to me became gradually more animated as he proceeded, and his tale was told as if he had himself experienced it all. When he spoke of the silent nocturnal expedition, his voice was lowered, as if the watchman of the chain could hear it. He and his companions mimicked the splashing of the oars on the high seas, and his voice became louder when a storm seized the light bark and hurled it towards the very spot where shortly before they had but just escaped the Turkish spies. He seemed anxiously to snatch at the reeds which each caique bore along with it, that he might give it the appearance of a forest of reeds. But when he came to the description of the attack, all the Cossacks sprang up with shrieks, as if they themselves would once more attack the place which was alluded to in the song.

The Cossacks are now the frontier guards of the immense Russian empire. They extend in a long stripe from the Polish-German frontier, and to the north of three great empires—Turkey, Persia, and China—as far as the great silent ocean; they protect their great fatherland in the south from the incursions of robber hordes, but in the west they exclude the products of European civilisation. The descendants of the earlier Cossacks were not, however, sufficiently strong to guard such an extent of frontier, and therefore in the course of time the inhabitants of other

districts of Russia, especially Little Russia, have been employed in that service. But besides these, even some non-Christian tribes, of warlike disposition—for example, the Bashkirs, the Kirghis, and Calmucks—were made Cossacks, and now not only perform the same functions as the others, but are likewise subject to the same regulations.

I regretted that I was unable to understand all that was said, on account of my imperfect knowledge of the Russian language; but fortunately the master of the packet-boat was a German, and willingly supplied what had escaped me. Thus the time passed rapidly away. Gradually the outline of the opposite coast became more distinct, and we soon found ourselves in the crescent-shaped bay of the harbour of Kertch. As the wind, however, was directly against us, it was only after tacking about for a considerable time that we ourselves succeeded in running into the harbour. The passage across lasted four hours.

It was the first time after a long period of privation that I once more found an inn arranged according to the German fashion. A German waiter relieved me of my cloak on entering, and led me into a neatly furnished room. He only who has been wandering for a long time among people where there are no inns, and who has been exposed to the voluntary or involuntary hospitality of those who have often scarcely enough

to meet their own wants, can fully appreciate the benefit of the inns of one's own country. For months together I often knew not where I should lay my head at night ; for weeks together I frequently saw no other food but sour milk on a polenta of millet, with neither butter nor salt.

Kertch is a modern town, but a mixture of the Italian and Russian. Houses with flat roofs remind us of the former ; wide long streets, partially unpaved, of the latter. On the whole, the town presents a more pleasing aspect than most Little Russian towns afford. It is said that it now contains 10,000 inhabitants, a number which is sure to increase with time. But it does not promise to be a town of much importance until the provinces about the Don enjoy a higher civilisation. Thus Kertch is even now the medium of communication between those provinces and the south, but the products of the Don lands are still so insignificant that the export is of no importance. The Don Cossacks, who occupy the most important lower portion of the territory of the Don, only cultivate as much corn as they require for their own maintenance. They live, besides, simply ; and the common people at least have few or no wants. The material for their clothing is chiefly made by themselves, or they obtain it from Russian factories.

Thus the chief traffic is confined to the products of

the immediate neighbourhood, fish and salt, both of which are exchanged in places north of the Sea of Azov for corn. There is a good deal of traffic, especially with Taganrog, a town which above twenty years ago promised to become of some consequence, but, since Kertch has risen, has lost its importance. The salt is obtained from small lakes which occur to the south of Kertch, the largest of which bear the names of Opuk and Tshokrek. Much fish is dried and salted like herrings. Several thousand tons of these are annually exported to the south of Russia. Caviar is also prepared, but, as the sturgeon does not here attain the size of those at the mouths of the Volga and Kour-Araxes, the grains of the caviar are smaller, but by no means inferior in flavour to those from Astracan.

Where Kertch now stands, several hundred years before the Christian era flourished Panticapæum, the royal metropolis of the Bosporanic sovereigns. The importance of this Grecian colony has been only recognised of late, and the opinion will gain ground the more we turn our attention to the remains still extant, a multitude of proofs from the earliest times having been recently discovered. Unfortunately the largest portion of the most valuable testimonies of that ancient period, chiefly found within the tombs, have been taken to St. Petersburg, and there placed in the Hermitage. In my opinion a complete collection, on the

very spot and position, would be far more appropriate. I have twice visited the collection at St. Petersburg, and each time was struck with its magnitude and richness. It is not my object to give an exact description of what has been already found, or to give the history of the Bosporanic kingdom ; I will only state in a few words what I saw here. My previous acquaintance with Mr. von Blaremburg, the Director of the Archæological Museum at Kertch, was a very advantageous circumstance, for in the kindest manner he himself introduced me to all that was worth seeing. He communicated to me the plan which he had laid down for the environs of Kertch, in accordance with the Strabonic description of ancient Panticapæum, and which interested me extremely, on account of the great unanimity between the ancient statements and the present state of the ground.

Kertch is situated close to the harbour, while the Panticapæum of Strabo was built upon mounds. The Acropolis was placed in front, almost in the centre, while the hill on which it stood extended to the south of the present town, and was connected with a ridge of inconsiderable elevation. We mounted the first height by a splendid stone staircase, on which the Museum is situated for the antiquarian objects of smaller value, but which are difficult to transport. It has a very good effect in the distance, with its columns, but

unfortunately proper attention is not paid to the outside of the building, which is the more to be desired as, on account of its position, it is much exposed to the weather. Arrived at the summit, there is a most glorious prospect of the immediate neighbourhood. By chance, also, about fifty vessels, and, among others, one Prussian, had cast anchor, and gave animation to the picture. Towards the south, and looking inland, the heights themselves excluded all distant view, but northwards stretched an interminable gray steppe, hardly broken by ancient sepulchral mounds (*tumuli*, *kurgan*).

A multitude of broken statues and mutilated sculptures lay in front of the building; the best were placed in the spacious hall within. In spite of being injured, one head of Apollo seemed to possess peculiar beauty; a reddish glow was still perceptible on the cheeks; in other parts the marble had a most dazzling whiteness, and was extremely fine-grained. A large coffin interested me still more, also composed of marble, which probably had at one time served as an enclosure to another of wood. Unfortunately it had been so mutilated by the Turks, the former masters of this district, that but little of the sculpture could be distinctly recognised. On the cover were two gigantic figures, whose heads had however been broken off.

Near it stood a coffin of cedar-wood, with most beautiful carving, forcibly reminding me of the German


chests of the middle ages. I afterwards obtained some ornaments from a Jew here, which I presented to the Archæological Museum in Berlin, as well as some very ancient sandals. The material of some of the vases, which were more or less Etruscan in form, resembled our porcelain. A particular kind of glass vessel also interested me, remarkable for its lightness.

But what drew my attention, above all other things, was a skull, in tolerable preservation, of a boy of about ten or twelve years old. All the bones were peculiarly thin, such as we scarcely see in a child of one or two years. But what was most remarkable was the length of the frontal bones, which were nearly as long as the whole of the rest of the face. This circumstance reminded me somewhat of the Macrocephali of Herodotus. In the present instance; however, the skull probably belonged to a sick child; but even then it was certainly strange that it did not at the same time expand in breadth.

Among the number of inscriptions which were here set up, and most of which, if I am not mistaken, have been published in the *Corpus Inscriptionum* of Böckh, there were also some which had been discovered at Taman, and which indicated with precision that the capital of the Russian grand principality of Tmutaracan of the tenth and eleventh centuries was situated in the peninsula of Taman. Hitherto the site

was unknown, and Tmutaracan has even been identified with Astracan. This monument was the only one inscribed in the ancient Russian alphabet, as all the others had Greek inscriptions. This Russian principality in the extreme south was of significance, since it testifies how far the influence of Russia must have extended, when its power did not only thrive, but even flourished, at that distance. One of the Grand Dukes conquered the Kasoghes (Cossacks, *i. e.* Tsherkassi) and the Isses (the Osses or Ossetes) in a decided action, and subdued these two tribes, which were still partially refractory.

Besides these monuments, a few clasps, rings, and chains were all that were to be found in the Museum of Kertch. Those I saw had a pale golden yellow colour, and seemed to be manufactured of the purest gold. There are Jews here, who, more clandestinely than openly, trade in antiquities, especially in coins. Formerly it was strictly forbidden ; but on that account much was sold out of the country which some here would have been glad to possess, and which would have been most useful in completing the collection at St. Petersburg. However, through the exertions of Mr. von Blaremborg, the trade is now free, under this stipulation, that all antiquities should be first offered for sale to the Museum here. The Jews, however, do not yet trust this entirely, and I have to thank this



circumstance, and my acquaintance with the Director, that all the vendors protested in the most solemn manner that they had nothing at that time in their possession.

A well has been built close to the harbour from a variety of less valuable antiquarian stones ; and apart from the interest on this account, it has a very good appearance. Close beside it a number of inscriptions lay scattered about, which, on account of their being considerably mutilated, are regarded as having no further value, yet there might be much among them it would be most desirable to preserve on scientific grounds. Unfortunately, the requisite space to protect these works of art efficiently from the wind and weather is wanting.

From the Museum I ascended the height in front, facing the sea, where the Acropolis might once have stood. But here we found very few traces of ancient masonry ; on the contrary, the highest position is occupied by a small temple of the most modern period. This temple covers the sepulchre of a former Governor of Kertch, named Stamkoffsky. Under his superintendence most of the excavations and valuable researches were made, and science owes many an important discovery to this accomplished gentleman. It appears, however, as if the Russian government at that time, unfortunately, did not take the same interest in

those subjects as at present, for a number of interesting antiquities then in existence have disappeared. Stankoffsky himself was in possession of a most valuable collection of coins, especially from the period of the Bosporanic kings, which he bequeathed after his death to a friend in Paris. But when the latter died, the Emperor Nicholas caused the whole collection to be purchased for a considerable sum, and thus it migrated to the Hermitage at St. Petersburg, to be there placed for the benefit of science.

The traces of masonry above mentioned are situated behind the temple which I have indicated. I was told that only a short time previously a tower stood here, and that the great Mithridates possessed a castle on this spot, from which he had addressed his assembled troops. The hill, on that account, is even now called the Mount Mithridates. The rock of which the whole line of elevation is composed, is a very soft limestone, of the newest Tertiary period, and has received the name of Kertch limestone, owing to its peculiarity; but with us it is generally called Steppe limestone. It is also frequently found in the peninsula of the Crimea as well as here, and is a particularly good building-stone, on account of being so easily worked; for this object it is usually cut into long square blocks.

Where Kertch now stands was undoubtedly a very ancient burial-ground. A multitude of barrows, so-

called tumuli, extend chiefly towards the north, but most of them have been already so overturned by Genoese, Tartars, Turks, and Russians, that few exhibit their original arrangement. According to Dubois de Montpéreux, who has published an excellent description of them in the above-mentioned work, the tombs were excavated from the soft limestone during the earliest Milesian period. It was not till afterwards that the chambers in which the coffins were placed were entirely closed by masonry, the stones of which, however, were not cemented by mortar, but were then covered in with earth, so as to form a conical hillock. One such barrow served usually as the burial-place of a whole family; probably it was built higher in proportion to the distinction of the owner.

When we behold the multitude of barrows which extend for many leagues, and reflect that those belonging to the poorer classes, who were interred at less expense, must have disappeared in the shortest possible space of time, consequently that all the barrows which are still discernible belonged to people of distinction, we must, indeed, be amazed at the opulence and wealth of ancient Panticapæum, the most northern colony of the Milesians. The mounds have been overturned century after century, to search for gold and silver, or other precious objects; and yet, down to the latest times, coins, clasps, rings, and such articles, whose

workmanship equally claims our admiration, are found here almost annually. I saw earrings and bracelets in St. Petersburg which were fabricated with such dexterity that they might even now bear comparison with the productions of our most accomplished goldsmiths. The multitude of articles which are still found also indicates a luxury among the women which we should not have expected to find, above two thousand years ago, in this remote corner of the civilized world.

The day on which I visited the barrows, Mr. von Blaremborg sent out people to make some excavations. Unfortunately they had not sought in a favourable spot, for where they dug nothing was found. As it appeared, the earth had here been turned up at different times, and the inner tombs were thrown topsyturvy, and even the bones flung about. The mighty and the proud, who once were buried here, imagined that their memory would be preserved to the latest period: but they did not contemplate that their bones should one day be delivered into profane hands. Such are the fruits of conceited pride and arrogance. No one disturbs the poor man in his simple grave; he, by God's work, becomes the dust again from which he was taken, without falling a prey to human avarice.

I was most interested in two large barrows which undoubtedly owe their origin to kings, and afterwards enclosed their bones. The largest of these once con-

tained the marble coffin about which I have already spoken. The mound might be about 100 feet* high, but at the base it had a diameter of about 150 feet. A narrow and very lofty passage, 140 feet long and 10 feet broad, conducted me to the inner square chamber, about 15 feet in diameter. On the upper part the corners were rounded off, but the whole inclined to a conical shape: the height might have been about 40 feet. The walls no longer exhibited any traces of embellishment; and as the chamber, besides, was by no means clean, the sepulchre made an extremely disagreeable impression upon me.

Kertch, with the whole of the small peninsula on whose eastern extremity stands the town, has a special governor, and, during my residence, no other personage indeed than the Grusian Prince Herheulidse. He had a great predilection for Germany, the country, as he expressed it, of all discoveries and of profound thinkers. He attentively followed up whatever was brought to light there by the aid of science. His family were still more German in their tastes. The Princess, educated at Dresden, had thereby become more or less a German herself, and spoke only the German language with her children, their instructions also being given in that tongue. A German governess

* The Rheinland foot is 12·341 English inches.

had undertaken the education of those daughters who were still young.

The Prince also took much interest in the affairs of his immediate neighbourhood, especially with reference to its natural history. I saw a very pretty collection of stones in his possession, chiefly composed of fossils from the Kertch limestone, and besides other curiosities of fragments of corals, which here form conical mounds resembling the barrows, and may frequently be seen in the middle of the open plain. Some shells interested me still more, which seemed to belong to the genera *Unio* and *Anodonta*, as some of them were filled with the finest needles of a ferro-cyanide. By the Prince's account these shells are by no means rare in the sand of the sea-shore, especially near a farm towards the north, where a sulphur spring of the temperature of 13° Reaumur issues from the summit of a limestone mound. When Mr. Anatol von Demidoff mentions in his *Travels* that no specimens of these shells are to be met with in any European museum, he is mistaken, as I long ago sent some to the museum at Berlin, and Dubois de Montpéreux was already in possession of similar ones in his private collection. There is also a mud volcano not far from this spot, which does not differ in any respect from that on the peninsula of Taman: it forms a very broad mound, but not lofty, nor is it truncated at the top.

CHAPTER II.

THEODOSIA (KAFFA) AND KARA-SU-BASAR.

Pampas and Steppe — The peninsula of Kertch and tongue of land Arabat — Tartars — Theodosia — Mr. von Smitten — Kaffa — Turkish barbarities — Desolation of the Crimea — The houses and situation of Theodosia — A German inn — Crimean wines — People of various nations — The Jews — The condition of the ground — Flocks of sheep — Camels — Post carriages — Kara-Su-Basar — Artisans — Schirinfelsen.

ON the 17th of September I quitted Kertch and made the best of my way to Theodosia, about sixty-seven English miles distant. The road leads directly west, across a steppe interrupted by low hills. It differed, however, essentially from the steppes in Cis-Caucasus, and bore a stronger resemblance to the American Pampas. In South America this name applies to either a flat or very undulating tract of country, which in general is wanting in springs of water. On this account it is only during the rainy season that any amount of vegetation is to be seen, while during the hot summer months the country is transformed into a complete desert, and can hardly support a few herbs and scattered shrubs, neither of which exhibit the

ordinary verdure of plants. The ground on the whole of the eastern side of the Crimea consists chiefly of limestone and marl, and belongs to the newest tertiary or diluvial period; while here, as in the true desert, a considerable amount of salt in the ground forms an impediment to the growth of plants.

The steppe of this country has also a grey appearance. The plants are all somewhat stunted, have more or less a grey colour, and, on an average, are not above a foot high. There is very little variety, but those that grow here occupy large tracts of country, thereby increasing the uniformity of the scenery; as for example the Senecioneæ, Asters, Scabii, Mallows, Umbelliferæ, &c. Plants which, upon the steppes in the Cis-Caucasus, form the larger description of weeds, are totally wanting here. I chiefly saw the white Horehound, the species *Marrubium peregrinum*, *L. β. creticum*, Mill. It is this plant especially which, along with the Gypsophila, forms the so-called Burjan, and comes so prominently forward in the songs of the inhabitants of the steppes, and in the children's tales. I shall say more about this Burjan when I have an opportunity of speaking at greater length about the steppe of Southern Russia. Next to the white horehound we noticed a Mugwort, *Artemisia maritima*, *L. β. taurica*, Bieb. This plant is the most widely distributed over the steppe in this district. Its flower-heads

have an intensely aromatic odour, and are generally used by the Tartars as worm-seeds, *Semen cinæ*. What the Russian apothecaries presented to me as worm-seed differs from ours by having rounder flower-heads, but I cannot say exactly from which plant it is gathered. It is also probably one of the many varieties of *A. maritima*, L., which supplies this medicine so much used in Russia.

Among the remaining plants which I here saw widely distributed I must not omit to mention a Knap-weed with scattered branches and small flower-heads, *Centaurea diffusa*, Lam., which also contributes to the composition of Burjan : finally, our scarlet Eyebright, *Odontites rubra*, Pers.

The conical hillocks extend several miles beyond Kertch, and, according to Dubois de Montpéreux, most of them are not barrows, but are formed of the stems of corals. At the first station, Soultanovka, the country begins to be gently undulating, and we approached a slight elevation extending several miles westward. Here was the frontier of the kingdom of the Bosphoric kings at a late period, whose possessions stretched farther to the other side of the Bosphorus. The elevation juts into the Sea of Azov, and forms the narrow tongue of land Arabat. A road along it, leading to the continent of South Russia, is principally employed by merchants from Kertch.

Between this so-called tongue of land and the actual Crimean peninsula lies the Putrid or Dead Sea, named thus on account of its marshy waters, which in summer are both offensive and unhealthy. Great forests of reeds run down into it, and serve as a summer residence for a multitude of marsh birds.

The elevated ground is more fertile than the plain which I had just traversed, and serves the Tartars principally as pasturage for their numerous flocks. The Tartars or Noghais here differ essentially from those on the northern side of the Caucasus, since they have retained far more of the original stamp in their physiognomy and in the structure of their bodies. Their figures, without exception, are short and stumpy; they have round, full faces, straight black hair without any gloss, and but little beard. Their eyes are slit, and the pupil is scarcely distinguishable from the dark iris, both which circumstances form a disagreeable contrast with the yellowish-white of the rest of the eye. The short, stunted nose, somewhat pouting lips, and the scarcely projecting chin, contributed as little to the embellishment of their persons (which average little more than five feet high) as their short necks and puffy limbs. Nevertheless, especially among the girls between the ages of seventeen and twenty, though they in general differ little from their countrymen, we find some who not alone have pretensions to beauty,

but who even actually merit the title. As the usual yellow colour of the skin assumes in them a delicate tint, with a slight tinge of carmine, they do not strike one as by any means so disagreeable as Tartar women farther advanced in life ; so that even, when once accustomed to the slit eyes, their mild expression is sufficient to gain the hearts of men of the Indo-European race ; but when a young and beautiful woman has had one or two children, she not only loses her charms rapidly, but soon exhibits an extreme of ugliness such as we scarcely ever meet with among ourselves, and women of the age of thirty look as if they were matrons who had undergone many hardships. It is a curious fact, that the Tartars here do not speak the same dialect as their countrymen upon the Caucasus, but have a pronunciation which differs but little from that spoken in Constantinople.

My obliging postilion conducted me by the stations of Argin and Propatshkaya to Theodosia. The postal arrangements are particularly good in the Crimea, especially in those places where Prince Woronzoff possesses any influence. In place of a bucket-shaped waggon we are here given a small kind of carriage resembling those in Holstein. Seats are still wanting, and the traveller is compelled to recline upon hay, or to make himself as comfortable as he can with his luggage. The horses are even attached less closely to

the carriage than in other parts of Russia. We can perceive that here and there some benefit has been derived from the German colonies in the Crimea. In this respect the Crim Tartars essentially differ from the inhabitants of Trans-Caucasus, where Tartars and Grusians (Georgians) live year after year in wretched filth and poverty beside German colonists, daily seeing their prosperity, and yet adopting none of the measures which would essentially benefit their own condition.

As one is usually compelled to travel alone, posting in Russia is not so cheap as it appears. On an average it comes to 8 groschen (about 10*d.* English) the German mile,^a a price which I should only pay when travelling with the mail in Germany, at the same time enjoying a very different accommodation.

The sun was just setting as I reached Theodosia, and I once more found very good quarters at a German inn. For the first time after a long interval I saw a white linen cloth spread over my pillow. I had not fared so well as this at Kertch, although even there I was given a mattress and a pillow covered with leather. The thorough enjoyment of this comfort and cleanliness, after being deprived of it for so long an

^a The German mile is equal to four English miles and eight-tenths. I shall therefore, in future, consider it an equivalent to five English miles, except where it is requisite to state an exact number.—Ta.

interval, can never be appreciated by those who have not crossed the boundaries of their fatherland. In the countries through which I had passed in the present and during my previous journeys, even in the inns at Tiflis and in the Konaks, a slightly elevated position is offered to the guest for his bed, and he is left to prepare it according to his own convenience.

To my great joy I found two Riga merchants in Theodosia, as well as an acquaintance from Tiflis, Mr. von Smitten. We quickly agreed to join parties in travelling, which was the more agreeable to me as a long residence among strangers, of whose language I was almost totally ignorant, becomes in time tiresome, and even disagreeable, especially when there was no other object in view, as was the case at present, but that of getting over the wide extent of ground which separated us from home.

Theodosia, or Feodosia, as it is called by the Russians, who always pronounce the Greek Th like F, is a town of recent origin, and was built by the Russians; though five hundred years before Christ, and probably on the same spot, stood a Milesian colony which bore the same name. This was at one time tributary to the Bosphoric kings, at another to the republic of Cherson, but it was also sometimes independent, though it never attained the important position held by Panticapæum. During the first centuries of the Christian era the town

began to decline, and appears to have gone entirely to ruin during the early period of the migration of the nations. It was not before the thirteenth century, when the Crimea was seized by the Mongholians, that a town called Kapha or Kaffa was erected on the same spot, which soon fell into the hands of the Genoese. Kaffa, under this powerful independent state, rapidly became a most flourishing city, so that one century afterwards the town reckoned more than 100,000 inhabitants, and received the appellation of the second Constantinople. Merchants from Kaffa carried on a traffic far among the Caucasian Mountains, and even beyond the Caspian Sea. From the thirteenth to the fifteenth centuries this Genoese colony seems to have rivalled the mother city in opulence and power, nevertheless continuing to receive her governors from Genoa ; but while the latter wasted her best powers in internal dissensions, or not unfrequently succumbed to the proud and equally powerful Venice, Kaffa, century after century, was enlarging her possessions, so that gradually all the most important harbours on the southern coast of the Black Sea came under her control. The conquest of Constantinople by the Turks in 1453 was, however, an omen to Kaffa of her own downfall. Nine years later Trebisond fell into the hands of the same conqueror, Mohammed II., and, after the lapse of thirteen more years, the wealthy and powerful Kaffa surrendered to

the universal enemy of Christianity, without even attempting the smallest resistance. With the exception of Alexander of Macedon, the first caliphs, and the late Mongholian kings, few ever desolated so many flourishing and powerful cities in the short space of two-and-twenty years (two of them capitals of great empires) as the barbarous Mohammed II.

Kaffa had voluntarily surrendered without terms, trusting to the mercy of the conqueror. Its inhabitants were anxious to escape the fate of Constantinople and Trebisonde, and confided in Moslemite promises, as if they had not already received sufficient warning by the most shameful treachery and the basest infidelity. The town received grace; but forty thousand of its inhabitants were compelled to transfer their homes to the desolated Constantinople. The new masters laid claim to all the slaves. No plunder was permitted, but the unfortunate inhabitants were forced to relinquish half their property. All this, however, was but the commencement of what happened during the three succeeding years. The Tartar Khan Mengli Ghirei, the same who was raised to the throne by the support of the Genoese, soon completed the cruelties which the Turks had perpetrated during this period. Descriptions of what then took place surpass everything of the sort that has ever been heard, and it is no exaggeration to state that rivers of blood flowed in the actual sense

of the term. Vessels filled with the gold and precious articles of Genoa sailed for Constantinople. What the unwise inhabitants of Kaffa did not do, was done by the smaller places and fortresses. They manfully defended themselves against the approaching masses, and preferred falling in open though perhaps hopeless combat, to yielding at discretion. The cruel and faithless adherents of Islam were once more to behold that Christians could be courageous to the death for their faith: in Mangup a few men defied the rage and overwhelming numbers of a tyrant accustomed to conquer.

After all had been robbed and plundered, and there were no more treasures to pass from the former wealthy Kaffa to Constantinople, the proud Sultan imagined that it only required his command in order to render the city once more the emporium of Asiatic wealth. All trade, however, had disappeared, together with the murder and the banishment of the Genoese. The privileges which the town of Kaffa once more enjoyed were of no avail. When deterioration begins, man can least of all stay its course. Few years elapsed before the civilisation around Kaffa had disappeared, and the previous stirring life was substituted by a dreary waste. In place of men, sheep now paced along the coast, and fed upon the herbs of the land, which now for the first time became a steppe. The Crimea is now Russian. Catherine II. already discerned the vast importance of

the peninsula, and thought that she might be capable of raising it. The Emperors Alexander and Nicholas have also attempted to restore its former brilliancy, and neither sacrifices nor exertions have scared them from the task. Things, however, advance but slowly. History informs us that towns once razed to the ground never resume their former splendour. New cities may replace the older ones, but these seem condemned from the commencement to remain insignificant. It is not many years ago that Odessa was founded, and a future seems to open before her. She has already drawn all the commerce of Southern Russia into her own hands, and, in spite of not holding the most advantageous position, no town on the extensive coast of the Black Sea can now in any way rival her; all more or less are dependent on Odessa.


Theodosia is subject to the same fate as Taganrog. Thirty years ago the greatest pains were bestowed on her mercantile development, but suddenly Kertch was regarded as a more favourable mart, and the advantages Theodosia had enjoyed were accordingly transferred to that city.

The political and strategical importance of the Crimea has now been recognised during the present combat, by the English, with their associates the French and Turks. Notwithstanding its former insignificant value in a mercantile and agricultural point of

view, the separation of the Crimea from the Russian empire, on account of the preponderating influence of the latter on South-Western Asia, is equivalent to cutting one of her arteries. The efforts of Russia, as even Peter the Great acknowledged, are directed towards the South, and, to gain territory in that quarter, Catherine II. entered upon an expensive and dangerous war. It is too well known in St. Petersburg that the Eastern empire was once tendered to a Russian Grand Duke. Time will teach us the issue of the present efforts of the allies in the South.

Theodosia is far more important as a trading place than Sevastopol. A convenient road leads to the interior of the peninsula, which besides is more accessible to civilization on the eastern than on the western side. The Don flows into the neighbouring Sea of Azov; the mouth of the Kuban is still nearer, and a combination with the mountainous tribes inimical to Russia is extremely easy. All these are grounds which render the possession of Theodosia of the greatest importance, particularly to the English; still more because, on account of the rising ground in its vicinity, it might be much more easily defended against a land army than Sevastopol. But nevertheless, to hold the Crimea, or a single portion of it, will prove a most difficult task, even for English and French troops.

The town makes a more agreeable impression upon



the eye than Kertch, and, for one reason, because it is not so scattered. The houses, clustered like a crescent round the spacious harbour, are Italian in form and arrangement. They are built almost without exception with colonnades or balconies, and have flat roofs. The streets seem tolerably wide, and are all paved.

While the sea forms the boundary within the crescent of houses, the outer side is surrounded by a connected succession of low hills. These are part of the eastern slope of the range of mountains on the Crimean coast, and are composed of marl and limestone, also of tertiary origin. Sad to say, this presents a barren grey aspect; and yet we read in history about the splendid gardens of the wealthy Genoese. Ancient Kaffa can in nowise be limited to the space now occupied by Theodosia, and it is certain extended far across the hills into the steppe.

By the accounts of its present inhabitants, nothing is to be seen of the remains of the ancient Greek period. What is contained in the museum here belonging to the Grecian time was discovered at Kertch and elsewhere. There is a more valuable collection of monuments from the Genoese period; and it is to be regretted that it is only lately that attention has been turned to the remains which do not belong to Grecian antiquity. Some ruins are still visible on the hills which at both extremities skirt the horns of the cres-

cent round the harbour. The tower on the side towards Kertch is indeed small and imperfect at the summit, but it has extremely strong walls. On the opposite side the ruins are in less preservation, but appear to have been more extensive.

Our civil landlord placed before us a good German dinner. I had heard so much of Crimean wines, that I was curious to become acquainted with them in the neighbourhood of the spot where they were prepared. "What wine do the gentlemen require?" was the reply of our host to our demand. "Will you have Forster, Traminer, Johannisberger, or Leistenwein? Or are you, perhaps, less patriotic in your tastes, and prefer the wine produced from the French, Spanish, or Cape vines? I should then recommend a countly Bordeaux of the first quality!" "We have no wish for foreign wines, my dear countryman, but for those of the Crimea," we replied. "I see, gentlemen," returned our host, "that it is your first visit to the Crimea; for you would otherwise have been aware that all the wines I have proffered to you are prepared from grapes which ripen here. The proprietors of our vineyards have procured the best vines at great expense from every country, even from America; but they continue to call the wine after the original vine which has supplied the grapes. For instance, my Rhine wine is not prepared on the Rhine, but on the

southern coast here ; and as I before said, only from the grape which was brought from the Rhine. As the estates of Count Woronzoff (he was not then Prince) produce the best wine, all that is good also obtains the name of 'countly,' even if not produced on the Count's vineyards." Thus enlightened, we drank in succession those which had the highest reputation—Johannisberger, Steinwein, St. Julien, Champagne, Madeira, Cape wine, and found that some of them were by no means bad, especially to those whose tastes were not rendered fastidious after a considerable residence in Asia ; but yet they had not the slightest resemblance to the varieties whose names they bore. The only thing in common was the price ; since for the sum of two rouble assignats (about two shillings) the wines were not even moderately good. We paid one silver rouble and more (therefore above three shillings) for wines of a somewhat better quality.

If the number of different nations in the Crimea does not amount to so large a sum as on the isthmus of the Caucasus, yet every stranger would certainly be struck by the variety of costume which he would see in Theodosia. In each of the towns, and consequently here also, all the officials, with few exceptions, are Russians ; but the wealthy merchants are Greeks and Armenians, sometimes Italians : the poorer, on the other hand, are Jews, and the tradesmen are generally

Germans ; here and there some gipsies may also be seen. The Tartars, the original inhabitants of the Crimea, who retain the same physiognomy and physical development which I have already described, both in the neighbourhood of Theodosia, as well as throughout the plain, with few exceptions, which I shall presently mention, wander about as long as they are able with their flocks of sheep and cattle, and pass the winter in wretched villages. Since the Russians have taken possession of the Crimea, the Tartars have relinquished a portion of their ground and territory, and indeed, for the most part, the best portion, for the settlements of other nations. To take one instance among several, a number of Jews have been transferred from the interior of Russia ; and these wretched people, imagining that they were only born for trade, and who, in Russia, shun all labour even more than in our own country (Germany), have been compelled to practise husbandry, the very occupation they most abhor. It was hoped, on the part of Russia, that they would have been induced to renounce their vagabond habits by a fixed mode of life ; but the descendants of Abraham gradually pass into the towns, and there soon become the same intolerable burden as everywhere in the west of Russia, where they have once established themselves. There are some German colonies in the neighbourhood of Theodosia, who were only then beginning

to thrive. The Germans may be distinguished even at a distance by their conveyances, which have really an ornamental appearance compared to the heavy native waggons.

After dinner we continued our travels to Simferopol, the chief city of the Taurian government, and accomplished the whole journey, a distance of 108 versts, therefore of 72 English miles, in about eight hours. Simferopol is situated to the north of the Crimean chain of mountains. We left these on our left hand, and presently once more entered the open steppe. I had read much, and heard more, of the fertility of the Crimea, so that I really could not understand, while traversing the peninsula to the above-mentioned capital, how the chief portion of the way was a dreary pampas, in place of a fertile and cultivated soil. The country between Theodosia and Simferopol does not indeed properly deserve the name of steppe, at least during the autumn season. If the soil of which the peninsula of Kertch is composed had an ashy grey and disagreeable appearance, this was more the case in the interior of the Crimea. It is true I saw the same plants prevalent here as there, but they were more miserable in appearance, and did not grow so thickly. Besides this, the nearer we approached Simferopol, the ground consisted of a dazzling and very friable white limestone, only here and there covered

with a slight crust of vegetable soil. The surface was rapidly dissolved by the wind and weather, and a fine dust was driven by the wind into our faces. Now, if the sight of such a dazzling white limestone surface made a most unpleasant impression on the sight, the limestone-dust which was flying about in the air was still more painful, as it is very apt to produce inflammation in the eye, which lasts for a long time. Even the inhabitants of the steppe, who are more accustomed to it, do not unfrequently suffer from an epidemic, the so-called Egyptian ophthalmia.

Wherever a spring of water flows out of the ground, it produces a more pleasing and verdant aspect; but these fertile spots, true oases, did not fall to the lot of the Tartars, the original proprietors of the Crimea; because, having no fixed abode upon them, the land was pronounced to belong to no one, and was accordingly seized by the Russians, and Russian nobles now hold these oases for the benefit of their estates, or only for farms.

We occasionally met flocks of sheep, composed of a thousand or more heads, but they were not nearly as fine-looking animals as those I had seen in the Caucasus, among the Noghai, and seemed more or less degenerate. In their form they appeared to be an intermediate link between the so-called fat-tailed sheep and the Russian steppe sheep of the present day.

The tail was only covered with fat at the upper extremity, and narrowed towards the point, so that it had a pyramidal appearance. Most of the sheep had a dirty yellow colour, but many were spotted with black, and some were even entirely black. I have unfortunately seen nothing of the once so renowned Crimean sheep, which supply the Crimean fur. The cattle had a better appearance. They were smaller in stature than those on the Kuban, but had generally the same light-brown colour.

I was very much struck with the appearance of the really beautiful camels in these parts. The specimens I had hitherto seen in Grusia (Georgia), as well as in Cis-Caucasus, were more or less ugly. Whenever I saw caravans consisting of camels and dromedaries, I always thought of the fable of the discontented horse who was converted into a camel. But the camel seems to be well taken care of here. Dromedaries, that is to say, camels with one hump, which are alone mentioned by Anatol Demidoff and his naturalists, I neither saw here nor afterwards; it is therefore allowable to suppose that the statement is founded on an error. The colour of their skin is one uniform dull brown; they have a beautiful mane, which, hanging from below the neck to between the fore feet, no doubt receives much attention. The hair had a more crisp appearance, and felt softer, than what I had hitherto

seen. It is generally used as wool. The women not only spin it, but also weave it into cloths and other stuffs, leaving the original colour.

Camels are scarcely ever employed for anything in the Crimea, except for draught. The custom among the Calmucks, to suspend baskets on either side, in which, during their migrations, their children and effects are placed, I did not see in the Crimea. No doubt the reason of their looking in such good condition proceeds from the circumstance that the useful beasts do not carry heavy burdens, by which alone the hair would be worn away, and that they also generally receive good nourishment. The waggons (madgiars) are two-wheeled, like those of the other Noghais, and are in the form of a parallelogram. The wheels not unfrequently have a diameter of from six to seven feet, and revolve upon their axes, and do not turn along with it, as is the case in South-western Asia. Unfortunately, the Tartars grease their carriage-wheels as little as other nomadic tribes of Asia, so that, whenever the waggon is in motion, the ear is offended by the most insufferable creaking, which may be heard far across the interminable plain. The origin of this may be traced to religious superstition, by which, on the one hand, it is supposed that honest people have no reason to wander forth silently, and tremble before their own noise, on the other, that Mahometans dare not use

the fat of swine, and the fat of mutton or beef would not answer the same purpose.

The Tartars here seem to be more industrious than their countrymen beyond the Caucasus. They have, for instance, built themselves a kind of covered light travelling carriage, after the German fashion, and by this means maintain a constant intercourse between Theodosia, Kara-Su-Basar, and Simferopol. One may travel a great distance upon one of these for a few pence.

There is only one great Tartar village on the whole extent of road, and it is said to contain 15,000 inhabitants. It is called after the little river on which it is situated, "Black Water Market" (and not Red Water Market, as is stated by Kohl), for this is the meaning of the Tartar word Kara-Su-Basar. We here seem again to be suddenly transported to the East, even more, indeed, than in almost all the Grusian and other Trans-Caucasian places. Catherine II. only left two places, Kara-Su-Basar and Baktchi-Sarai, where the Tartars might live undisturbed, following their own customs. Hitherto the promise of the great empress has been faithfully kept, and Tartars alone venture to make these two places their constant residence. Kara-Su-Basar reminded me also of Trebisond, at least of the actual inner town. Narrow, crooked streets, which could be partly traversed with carriages, also occur

here. High white walls separate the court-yard from the street ; the dwelling-house of the family is situated behind, and a garden, in which the females can enjoy the open air, without being gazed at by strange men.

Kara-Su-Basar is rich in mosques ; it is said that two-and-twenty are now in existence ; and also in minarets, of which I counted seven. The first had generally large square chambers, exhibiting, externally at least, nothing but white walls ; the latter, on the other hand, were particularly slender and ornamental, and looked extremely beautiful amidst the complicated throng of houses, and the fresh verdure of the gardens. A Tartar village of this description is unquestionably far more picturesque than a Russian town, where unfortunately the large and otherwise handsome churches and towers frequently leave an unpleasant impression on the eye, owing to their varied colours.

In Little Tartary, for such was the name of the Crimea and the north-west of the Sea of Azov as late as the end of the last century, the male population pass their lives in public, similar to Tiflis and other places in the East. All the artisans work in the streets, or at any rate in their open shops ; those who work at the same occupation sit beside each other ; so that at one place the shoemakers, at another the tailors, &c. &c., sit in a row. The former are celebrated for

their skill, and their shoes are especially sought by the Mahometans. But other leather works are also executed here in the best manner. Kara-Su-Basar has besides excellent scabbards for Kindshals (the Candshahs of the Turks)^a and knives, which during the last century were sold far in the interior of Asia.

Kara-Su-Basar lies on the southern base of the coast chain of the Crimea, the greater portion of which gradually slopes away towards the north, so that the ridge of mountains may be ascended almost imperceptibly from this point. With the exception of an elevation of little consequence, from four to five hundred feet high, and under three miles long, we only perceive small hills, or rather slight undulating ground. The above-mentioned height, however, like the principal range, declines precipitously on one side, while on the other it may very easily be ascended. It is called by the Tartars Akkaja, the White Rock, from the limestone of which it is composed; by the Russians, on the other hand, it bears the name "Schirinfelsen." The most distinguished and wealthiest Tartar family, which could alone enter into matrimonial connection with the daughters of the Tartar Khan, bore the name of Schirin, and possessed all the country in the eastern portion of the Crimean peninsula. The powerful heads

^a A particular kind of scimitar. — Tr.

of this family, not unfrequently relying on their influence, dared to defy their lord, the Tartar Khan, and the Schirin was in the habit of collecting his men and vassals in council upon the rock which rises here.

CHAPTER III.

SIMFEROPOL.

The Taurian hotel — The Government — Tartars — The Kalga Sultan — Sahin-Ghiray — Ak-Metchet — The New Town — The cathedral — Bazaar — A Courland Jew — Cattle — Fruit and orchards — The valley of the Salghir — Apples — Mr. von Steven — Mr. von Hübner — A Russian labourer — Tartar management — Departure — Character of the country.

AFTER spending a short time in Kara-Su-Basar we continued our journey, and, soon after arriving at Simferopol, alighted at one of the four taverns which went by the proud appellation of the "Taurian Hotel." I do not know whether it is the hotel in which Mr. Kohl, the intelligent author of 'Travels in Southern Russia,' and of several other works, took up his abode, but, by the description, I conclude it to be the same. Though viewed from the outside, it seemed to be a splendid building, the internal arrangements did not in the least correspond with its external appearance. We were shown into a room where many weeks had certainly elapsed since the chamberman (for there are no chambermaids here) had set it in order. There lay such a thick coating of dust upon the table that a

journal of several days might have been inscribed upon it, and it did not even occur to the waiter to remove the dirt, for, on our polite request, he replied in the most unconcerned manner that he could not trouble himself with such matters, which belonged to the chamberman's duty. In place of feather-beds we were given a mattress, but without linen coverlets or sheets. Many probably had already slept there, but it appeared a long time since the bedsteads had received any purification. In the matter of food also we sorely missed our host at Theodosia. Everything here was abominably bad and expensive. We had to pay no less than one rouble and forty copeks, therefore about one shilling and fivepence, for a single portion of coffee. It is a peculiarity of Russian as well as of German inns, that the price of what we eat and drink is inversely proportionate to their merits.

Simferopol is the capital of the Taurian government. This, besides the peninsula of the Crimea (though, as before mentioned, exclusive of the peninsula of Kertch and Yeni Kale on the eastern side, which is geographically cut off from the rest), also embraces the northern coast of the Sea of Azov. It comprehends the so-called Little Tartary, the possession of the Tartar khans during the last centuries of their existence. Most of the Tartars, however, quitted their country after the occupation of the land

by the Russians in the year 1783, and sought refuge partly among the Circassians, who had frequently before acknowledged their supremacy, and partly among their countrymen in Bessarabia. Scarcely one-third of the inhabitants remained, and, in spite of efforts on the part of Russia, they have only partially relinquished their wandering lives. If the advantages which accrue to husbandry are pointed out to these people, they usually answer, "My father led a nomadic life and was happy; I will therefore do the same;" or, "As God has given understanding to the Franks, the plough to the Russians, and the chequer to the Armenians, he has given us the waggon."

Simferopol was formerly named Ak Metchet, *i. e.* the "White Church." I do not know why the Russians did not rather translate this name than select the Greek appellation of Simferopol, which, in the opinion of some, means the "Useful," of others, the "Double City." In early Tartar times it was the residence of the major-domo, the Kalga-Sultan, while the Tartar khan himself fixed his abode in Baktchi Sarai. The Kalga-Sultan represented the important personage who held the reins of government when the khan was travelling or incapacitated by illness; and, although, in possession of the seal of the khan to affix to all his commands or decrees, much power was thereby vested in his hands, he never abused this trust. In this

respect the major-domo of the Crimea most essentially differed from the "maires du palais" of the early Frank kings, for the latter ardently longed to get the government into their own hands, and at length took possession of it without further opposition. If the Kalga-Sultan was ill or away, then the Sultan was his representative. The title of Sultan was bestowed on all the princes and princesses of the reigning family.

Only one individual bearing the name of Ghiray, and deriving his origin from Dgenghis Khan himself, now remains in the Crimea. Sahin-Ghiray, the last khan, appointed and maintained in his position by the Russians, weary at length of the internal dissensions which occasioned so much mischief to his country and people, resigned his government, much as George XIII. did at a later period in Grusia. The latter did not oluntarily surrender his kingdom to Catherine II., but rather was compelled by circumstances; notwithstanding which, it is only inch by inch that the Russians have been enabled to gain possession of the land. The miserable Sahin-Ghiray no longer found repose in his own country, and retired to Constantinople, where the former vassal was received very ungraciously and banished to the island of Rhodes, whither it was customary for those to go who, having once borne high honours, had afterwards fallen into disgrace. Ere long the unhappy man received the silken cord as a special

favour, that is to say, in Turkish fashion, he was compelled to use it to take away his own life. The former rival khan, Selim-Ghiray, fled with all the nobles of his kingdom to Circassia, and thereby largely contributed to maintain the ancient enmity and hatred of the inhabitants of that country towards Russia. Only one member of the ruling family now remained, and there his son still resides, though leading a most retired life. Married to an Englishwoman, his children are brought up as Protestants, and, in 1844, his daughter was engaged to be married, if I am not mistaken, to a Mr. von Gersdorf, a Silesian by birth, but in the Russian service.

Strange fate! that the last of the fanatical family who were the arch-enemies of Christianity, more than once threatening destruction to all Christendom, should be herself a Christian, and, though surrounded by adherents to the Russo-Greek Church, which alone professes to render the believer blessed, a Protestant, and married to a Protestant. Would that the allied powers could reinstate the ancient Tartar kingdom in a new Christian form, and bestow it on one of the Protestant descendants of Dgenghis Khan. It would at least be an arrangement by which the rulers of France and England might clearly prove that the good of all, and not separate interests, induced them to enter into the struggle. As it is pronounced impossible for a Greek

empire in Constantinople to endure (in which opinion, however, I cannot myself concur), a Protestant kingdom, whose wings should not be intentionally clipped as those of Greece at the present day, might be best calculated to check the influence of Russia in the south, and might also perhaps infuse fresh vigour into infirm Islam.

Simferopol now contains 8000 inhabitants and 300 houses. As the seat of the chief governmental authorities, it has obtained an importance to which also its rapid growth is due. It consists of two parts, the ancient Tartar city, which still bears the name of the "White Church" (Ak-Metchet), and the Russian new town : they form most decided contrasts to each other. Narrow crooked streets traverse the first, the backs of the houses towards the street, or standing in the centre of a court, which is immediately contiguous to a garden planted with shrubs and trees. With the exception of that quarter of the city where the artisans sit at work and sell their goods, all is still and quiet. It is very rarely that a Tartar man, or even a child, is to be seen, and still less frequently a female figure, who, when they do appear, wander about veiled from head to foot in a white cloth, but in general pause to gaze after the stranger who has lost himself in the solitary streets.


The new town, on the other hand, has large wide

streets, which, if not entirely paved, have at least some pavement in the centre of the road. Most of the houses are only one story high, and the breadth of the streets, unfortunately, is very disproportionate to the height of the houses. In addition to this, though the Russians are very fond of being much outside their houses, yet the streets in general are empty and deserted. Besides, the great squares, which have a meaning where there are lofty houses, increase the scattered appearance of this town.

I did not observe any fine buildings in Simferopol, with the exception of the new cathedral. This, however, is composed of an equilateral cross, and has a vaulted cupola in the centre. The paintings within the church are very indifferent, and have no artistic merit. Not far from it stands the square obelisk dedicated to the hero of the Crimea, Prince Dolguruki Krimscoi. The portrait of the Prince, cut in marble, is on one side of the obelisk, on the opposite his escutcheon, on a third the Russian eagle, and on the fourth side the Triumph of Christianity over Islamism, represented by the baptism of a Tartar. The obelisk is composed of greenstone, a rock common to the southern coast.

It happened to be Friday, one of the two market-days in the week, when I was wandering through the streets of Simferopol. This town is the mart not only for the products of the Crimea, but also for foreign

goods. Its favourable position, almost in the centre of the peninsula, though somewhat nearer to the southern coast, renders it the natural medium for the inhabitants of the plain as well as the mountain chain. A good road leads to the southern coast, with which there is naturally much intercourse, on account of the numerous country-houses and gardens, whence the productions are brought and exchanged for others. The Tartars expose camels, horses, sheep, and cattle, for sale ; the Germans offer vegetables, butter, and cheese ; the Russians corn and bread. A multitude of Jews wandered about, and, by all manner of little offices, contrived to obtain some remuneration, however small. A young fellow about the age of twenty was our guide. A few years previous he had been transferred to the Crimea with many others of his nation from Courland, and, like the rest, had been compelled to turn to agriculture. All that he had since experienced he depicted in the liveliest colours, and showed me his hands, that I might see the wheals which had been produced by hard labour. At length he could stand it no longer, so this spring, when the field-work re-commenced, he ran away, and was now endeavouring to earn his bread in Simferopol. As is usual with others of his faith, it was his abhorrence of hard labour which in this instance had made him a vagrant. Though the complaints against the Jews in



Prussia and Germany are frequently unjust, it is unfortunately true that the descendants of Abraham are the curse of Russian Poland and the southern provinces of the empire. Until this injurious element of society is effectually rooted out, all the efforts of government to raise these provinces will be fruitless. The Jews will never become cultivators of the soil till they are transported to a district where they are entirely thrown upon their own resources, and where no opportunity is permitted them of carrying on traffic. That Jews can be excellent farmers I have more than once witnessed in the Caucasus.

We have often charged the Russian government with severity and cruelty in their conduct to the Jews by forcing them to lay aside their previous customs and habits, and even obliging them to settle in inhospitable regions. For my own part, I can by no means join in this reproach, though it may seem hard to compel them to migrate against their will ; yet whoever has resided any length of time in Poland, Lithuania, and the other Russian provinces inhabited by Jews, and has watched their habits, will, I am sure, agree with me. The Russian government is in duty bound to protect the other inhabitants from the manifold importunities and oppressions on the part of the Jews. It is the rarest instance when Jewish families there support themselves by the work of their hands

and by industrious habits ; for, with few praiseworthy exceptions, they shun labour as they would fire, and fix themselves like bloodsuckers upon the remaining better portion of the inhabitants, in order, by the industry of these last, to maintain themselves in an easier manner. They generally carry on a profitable trade with all kinds of small ware, and serve as intermediate agents to the common people, who, in Poland and Russia, as almost everywhere else, are still in a most miserable condition.^a The traffic, however, with the poor and ignorant peasantry is not maintained on an honourable footing, for every means is employed by the Jews to

^a It would appear that this observation applies only to the Old World, or the author would have surely not omitted to notice a large portion of North America, forming a remarkable exception to the rule. A happy combination of circumstances in some of the northern States, but mainly the influence of sound moral and intellectual education, freely offered to all classes, without distinction of creed, renders the condition of their poorer inhabitants very superior to what it is in Europe and other parts of the world. In his concern for the amelioration of the Christian peasantry of Russia, the author also seems to overlook the beneficial influence which this same great element of civilization and social happiness would exercise if accessible to them ; for by elevating their degraded condition the Jew would be indirectly deprived of his power of inflicting injury upon his Christian neighbour, and it would not alone obviate the necessity of resorting to such extreme and unjust measures as are defended by the author, but would finally benefit alike both Jew and Christian, in a moral as well as social point of view, and occasion a more friendly and just intercourse to subsist between the two races.—Tr.

derive as much advantage as possible, and cheating is not uncommon. As the Jew alone has ready money, it is to him that the peasantry apply whenever they require it, and they must then either pay an increasing rate of interest, which at length becomes exorbitant, or sacrifice the revenue they derive from their corn or cattle for several years to come. In addition to this the Jews generally keep the brandy-shops, thereby directly contributing to the demoralisation of the people.

The cattle which were standing for sale on the great market-place seemed to me very indifferent. The horses were positively bad and rather high in price; the sheep had a better appearance, and there were some camels which were offered on sale for 400 to 500 roubles (assignats), that is to say, for eighteen to two-and-twenty sovereigns.

The fruit interested me above everything else: it was chiefly brought to market by Tartars. Crim fruit is indeed celebrated throughout Russia, but what I here saw in nowise corresponded with its reputation. The external appearance of the apples did not agree with their internal character, for the first cut betrayed their inferior quality. Without exception, the delicate and superior flavour which I sought for here was wanting in every variety, and they even were without the aroma which we find in all our apples. It seemed to me that sufficient attention had not been paid to the

trees, but I must also add that this reproach does not apply to all the owners of the gardens and fruit-plantations, for afterwards I had frequently opportunities of seeing and tasting most excellent fruit. The pears were even worse than the apples; many of them really did not seem to me superior to our wild pear. On the other hand, I found the water-melons, as usual in the East of Europe, particularly delicious, but the sweet melon was not equally so: the best quality of the former kind have a rose-coloured pulp, and are principally cultivated near Taganrog. From that spot they are transported to all parts, even to St. Petersburg, Moscow, Constantinople, and Smyrna.

Little as I approved of the Crim fruit in the market, I found it excellent in the orchards of Messrs. von Steven, Mühlhausen, and Hübner. It was quite a pleasure to wander about their extensive grounds, where not a withered twig was to be seen, and the branches were kept clear of one another. The stems of the trees were all in good condition; they seemed to me only about fifteen or twenty years old. The orchards spread out to the south of the city, on the banks of the Salghir, the largest and almost the only river in the Crimea which derives its supply of water from the lofty mountain range, principally from the mountain of the Tent (the Tchadir Dag), and afterwards flows into the Putrid Sea. Here it makes a

deep cut through the nummulite limestone, which at this spot covers the surface of the country, while the town of Simferopol extends over a plateau spreading northwards. There are some orchards here of such a size that they annually yield several hundred pounds sterling of profit.

The Crimea seems to be the only district in Russia where fruit-trees and the vine can in any degree thrive, and even here only in particular situations. Except in the upper valley of the Salghir, they are only cultivated near Sudak and Sevastopol and on the southern coast. Southern fruits are, on an average, less expensive at St. Petersburg, Odessa, and most of the larger cities situated on the sea-coast, than the best kinds of apples and pears ; and yet I do not believe that our fruit is inferior to what is produced in the Crimea : on the contrary, many varieties which we consider among our best are wanting here. The German proprietors devote an attention to the cultivation of fruit-trees in the Crimea such as is rarely met with in Germany even among zealous nursery-gardeners, and they make here a far greater profit. As it is well known that none but inferior wines can be obtained in Champagne, the best quality being exported, the same thing occurs here with respect to the fruit. Every good apple is carefully wrapped in soft paper by the fruit-dealers themselves, and then packed in chests, which are handed over

to the heavy steppe-waggon. The fruit, by this means, travels 1500 miles northwards, and is then unpacked with the same care in Moscow and St. Petersburg. We may imagine the price of a Borsdorffer apple or a good Colville in either of these cities, when, even in the Crimea, they cost more than a penny apiece. Unfortunately, I was unable to learn anything precise with respect to the amount of the export, but it is by no means so large as is generally believed. I am persuaded more fruit is obtained from the valley of the Saale, between Rudolstadt and Naumburg, than in the whole of the Crimea.

I regretted much that the Counsellor of State, Mr. von Steven, a most distinguished botanist and entomologist, was just then absent on an annual tour of inspection. I should have enjoyed above all things to have been able to devote several days to the revision of his excellent herbarium. Mr. von Steven has an exact knowledge of the plants of Southern Russia and the Caucasus, which he has several times visited himself. After the late Marshal von Bieberstein, Professor of Botany at Kharkov, we owe our first knowledge of the flora of those parts of the country, which had hitherto been totally unexplored, to Mr. von Steven: he is not alone a botanist, but has gained a great reputation from his researches into the fauna of Russia, and especially from his knowledge of insects.

He also bears the reputation of being a most amiable man, a friend in word and deed to all who travel in the South of Russia ; and, connected by literary pursuits with most of the learned men of Europe, he executes any commissions he is requested to perform with the utmost readiness.

In his absence I found another very agreeable family, to whom I had letters of introduction. The head of it, Mr. von Hübner, had spent the greater portion of the time he had devoted to study in Germany, at the university of Jena, and married a native of Thuringia. This was very agreeable to me, and we spent nearly all the time of my short visit at his estate near Simferopol in relating anecdotes and talking about our German fatherland. Mr. von Hübner had an orchard, which he had planned six years before my visit, and which evidently now was in a most flourishing condition. His labourers consisted of one Russian, and of several Tartars. The first led such a peculiar life, that it deserves to be related. While we in Germany hire our servants or make similar engagements for the term of a quarter of a year, in Russia the term is a V'tret, that is to say, four months, or the third part of a year. Mr. von Hübner's Russian gardener was usually extremely industrious during these four months, living with the utmost economy, scarcely drinking as much as a

“vodka” (dram) in the day. His whole subsistence was bread, and a poor “shtsh” (hodge-podge), or “borshtsh” (cabbage-broth). But as soon as the third part of the year had expired, the work no longer prospered. He begged for his wages, which in the summer season amounted to more than seven guineas, and quitted with that sum. The smartest carriage, drawn by a couple of horses (the peasant is not permitted to drive with more), was immediately engaged for several days, along with a servant, and he then started on a drive with his mistress, or some good friend, who under such circumstances was never wanting. At first all passed off in the best manner imaginable; the labourer, playing “le grand seigneur,” treated his mistress and friend to the most costly dishes, in which onions never failed to form an ingredient, and to the most delicate wines, champagne taking the lead. As night drew on, and the number of his friends increased, matters became more uproarious, about midnight he usually became intoxicated, and the festivities of that evening were terminated. The following morning, when he had slept it off, the same life recommenced, and continued till the hour arrived when he again became unconscious. Thus he proceeded as long as he had a copek in his pocket; but at length, having spent all his money, he once more appeared at the appointed hour at the orchard,

went as usual to his work, and was as diligent as before.

The mode of life pursued by the Tartars formed the greatest contrast with that of this vulgar Russian. The money which they earned was brought home to their families, with whom their leisure hours were spent; not a copek was consumed out of the house. The domestic life of the Crim Tartar is said to be quite unexceptionable: I have spoken with several people who had passed considerable time in the Tartar villages, especially on the southern coast, and who had had opportunities of becoming acquainted with them, and they could not say enough to me of the harmony prevailing among the members of families, the love of order and activity of the women, and the industry of the men. Mr. von Hübner stated to me that one Tartar works on an average as much as two Russians. A Tartar village on the southern coast strikes one immediately on entering it, by the cleanliness of the streets and houses. No naked or ragged children are running about, as we see in Asia, among those belonging to the Christians and Mahometans. The women on the coast also have not the same anxiety to conceal themselves from the gaze of strangers; they are treated better by the men, not, as in Asia among their countrymen and fellow-believers, as if they were mere goods.

It was a beautiful Sunday morning when we once more seated ourselves in a post-carriage, and were rapidly conveyed by our three horses to the former capital of the rulers of the Crimea. Baghtshe Sarai, or rather, as it is here pronounced, Baktchi Sarai, is about thirty versts, therefore about twenty miles, distant from Simferopol. The road leads in a south-westerly direction on the precipitous northern declivity of the Crimean coast-range. At first it passes over the uniform plain, exhibiting few plants; but the nearer we approached our destination, the ground became more undulating, and we even observed small rows of hills rising here and there upon the plain. In place of the nummulitic limestone, we came upon the chalk, which, however, was not in the least distinguishable in its external appearance from the previous rock. The constant dazzling white surface is far from beneficial to the eye, but this limestone has greater solidity than the more recent formations, and does not weather so easily into that noxious powder which is unbearable at Kara-Su-Basar. Thus between Kertch and this place I had passed through all the different deposits, from the newest tertiary to the chalk. There the rocks are composed of steppe limestone, with stalks of corals belonging to the newest tertiary or quaternary formations. At Kara-Su-Basar we came upon the usual tertiary formation, which again at Simferopol was replaced by the

nummulitic limestone belonging to the oldest tertiary, or, as some geologists consider it, the newest secondary period. Here succeeds the still older rock chalk, and we shall soon become better acquainted with the Jurassic formation, and afterwards with the clay-slate.

During the latter part of our journey we passed through small valleys, watered by insignificant streams, and presenting a different vegetation. It neither resembled that of the Crimean pampas, nor that of the steppe, which I shall afterwards notice more particularly, but such as we meet with in Germany, especially in limestone districts, and which does not possess any very decided character. There was a greater variety of plants, and no particular genus occupied any considerable extent of ground. Next in number to the bushy shrub-like plants, about a foot in height, came the grasses; there was a profusion of annuals, and the road-sides were covered with much the same kind of plants as at home. The vegetation was extremely bare upon the hills, for the rain, as with us under similar circumstances, renders the accumulation of fertilizing soil impossible. It was, besides, autumn, when even fruitful districts no longer possess the fresh verdure of spring or of the early summer months.

The Tartars here put into practice what I have already related of them. The ground was partially cultivated — at least employed with advantage ; and it was evident that the inhabitants spared no pains to furnish the requisite supply of water to their fields, even during the summer, when it scarcely ever rains.

CHAPTER IV.

BAKTCHI SARAI AND CHUPHUT KALEH.

The ravine of Juruk Su — Dress of the Tartars — Kebabdshi — Ekmedshi — The palace of the Khans — Hall of Judgment — Harem — Maria Potolzka — Fearful vengeance — The Fountain of Tears — Mausoleum — A Tartar cemetery — Gipsies — A rock church — The Jewish fortress — Rabbi Solomon Beim — The Karaïtes — Adherents to the Talmud — Historical account — The synagogue — The Valley of Jehoshaphat.

THERE is no appearance of Baktchi Sarai before reaching the entrance of the narrow valley in which it is situated. This capital of the Crim Tartars, from its peculiar situation, presents a very different appearance from Kara-Su-Basar, which lies in the plain, especially as the houses of the former place have a different style of architecture and arrangement. A deep ravine passes across the chalk-limestone, through which flows a rapid stream, the Juruk Su. The sides of the ravine near the outlet are much inclined, but farther up the valley the rocks are very precipitous. As it is only between five hundred and one thousand paces wide, just enough space is left for a road and two rows of houses. Of course the latter cannot occupy much

extent of ground, at least in breadth; so that the houses are necessarily small. They lean to the back against the hill, the lower portion of which is less precipitous, and, planted with all kinds of shrubs, but principally fruit-trees, serves as a garden to the inhabitants. A court is frequently situated in front, enclosed by a high wall. The houses have no flat roofs, but gables, the sides inclining at a right angle on either side. Gutter-tiles are used for the roofing, and the tall chimneys have a very good effect, as seen from a distance, harmonizing with the still taller and numerous minarets, which strongly reminded us of Gothic architecture.

The Tartars of Baktchi Sarai are also very different from their countrymen in Kara-Su-Basar, and still more differ from those inhabiting the steppe, whose description I have given above. Their dress somewhat resembles the Armenian. It consists first of all in a long caftan, generally made of brown or blue cloth, slit below and at the sides, and with close-fitting sleeves attached to it. The trousers are, on the whole, cut in the old-fashioned Turkish fashion, but are not so wide, and better calculated for walking and work. As a covering for their heads, the Tartars wear a short cylindrical fur cap, about a foot high. The cylinder is generally closed above by scarlet cloth, which seems to be trimmed with gold or silver lace.

Baktchi Sarai extends for above half a mile along the valley, which retains almost the same width throughout. There are booths generally in front of the houses on either side, in which the artisans work and sell their goods. The leather-work is celebrated; shoes, scabbards for kindshals, pletkens or riding-whips, &c.; and these are not only used in the Crimea, but are exported to other parts. Many things reminded me of genuiue Turkish cities; for instance, the "kebabshi," those cook-shops where the food is prepared in the open streets. A great copper kettle, resting on a kind of hearth, contains the mutton, which is rendered piquant by the addition of all kinds of spices, but especially by onions; when ready, it is placed on flat dishes, and offered for sale. As one piece is removed, another is put into the kettle. This broth is not relished in Constantinople, but seems very popular here. I saw Tartars, with small wooden dishes in their hands, enjoying the contents, which they eat by means of wooden spoons, and for a few farthings—at the most a few pence—enough may be had to satisfy the most ravenous appetite. I also found the roasted meat—"shishlik"—prepared in the same manner here as in the East. The wooden spit, entirely covered with small pieces of meat, was turned by boys, over a coal fire, without smoke.

The "ekmedshi" (bakers) also prepare the various

kinds of bread before the eyes of the spectators. The small loaves here are strewn over with caraway-seeds, as in Constantinople, and now and then with anise-seed, which gives them an aromatic flavour; and the coffee-houses also were very similar to those in Constantinople. The reception-room was usually on the first story, as the ground floor was a shop; an external gallery passed round the former, and permitted the smokers to enjoy their pipes in the open air.

Nearly in the centre of Baktchi Sarai a sort of basin-shaped valley opens on the right hand. There stands the palace erected by the former rulers of Little Tartary, and, as it is carefully preserved by the Russian Government, still remaining in its primitive condition. A square monument of moderate height stands in front of the entrance, and informs the traveller that the great Catherine visited this spot on the 14th May old style (the 26th new), 1787. The architecture is peculiar, and different from similar buildings which I have seen in the East. It is impossible to discover any distinct plan. The rooms are irregular, and are not always arranged in order beside each other. Economy of space, so much attended to in our modern buildings, is but little regarded in this castle of the Khans, for unoccupied spaces occur on all sides. There is a great predominance of carving, especially in the windows, but

less on the ceilings and doors. Unfortunately, glaring tints of red and green are apparent in all directions. The pictures placed against the walls and elsewhere are unfinished, and without any artistic merit. In former times, when it was still inhabited by the Tartar Khan, and when splendid rugs were laid upon the floors, and magnificent divans skirted the sides of the rooms, the whole must have had a very different effect.

I was struck with the chairs and tables which we saw in many of the apartments, which must, in fact, have been used by the last Tartar Khan, Sahin-Ghiray. But this very imitation of European manners drew on him the hatred of his subjects, and chiefly occasioned the frequent revolts which the aid of Russia alone enabled him to quell.

The Serai was of considerable size, and in the form of an irregular rhombus. It is said to have been formerly of larger dimensions, but that a portion of it, which was threatening to fall in, has been demolished by the Russian Government. Passing through the narrow gate of the courtyard, the apartments of the Khan and his family are to the right hand, on the left the mosques and mausoleums, and to the back the servants' apartments, which now, however, are at the service of any stranger who can produce a letter of recommendation of sufficient consideration. The rooms were different in size and form; the larger ones containing fountains.

Farther back was the hall of justice. It forms a circular apartment, which is lofty, and with a gilt ceiling. Light is admitted by only very few windows ; but when the judge had to decide on an important case, even these were closed, and the chamber feebly illuminated by artificial lights, in order that nothing might check or disturb the course of justice. The accused was heard, and, if found guilty, was conducted on the left hand to undergo summary punishment. But whoever was declared innocent departed on the right, and soon reached the open court, in order once more to enjoy his freedom. Sometimes the Khans took a fancy to convince themselves of the justice of their judges. For this purpose, a small room or kind of gallery was fitted up on one side of the hall of justice, which, however, was enclosed by lattice-work, so that no one knew in the hall whether the Khan was present or absent. Woe betide the judge who did not pronounce sentence in accordance with his conviction !

The harem was to the back of the court, separated from the space in front by a high wall. It consisted of a moderate-sized garden, in which stood a quiet-looking house, containing five rooms, one beside the other. Here dwelt the four wives of the Khan, generally in the utmost retirement. The ruler of Little Tartary usually followed the precept of the Koran, by which a believer might at the most have four wives, with greater precision than the Padishah and the nobles in Turkey.

In the upper portion of the Khan's habitation we were shown the room in which Maria Podotzka (Podocka) is said to have lived, whose tale is told by the unfortunate Russian poet Pushkin. According to tradition—for there is no historical evidence to support the facts—about the middle of the last century, Poland was invaded by a Tartar Khan, who carried away with him as prisoner the beautiful daughter of the wealthy Count Podotzky (Potocky). Dazzled by her charms, he vainly endeavoured to win her heart. All his arguments were rejected by the Polish girl, who thought only of those at home, and no longer took pleasure in anything around her. The most beautiful apartments in the castle were given to Maria; she was presented with the finest dresses, and whatever the East could supply that was most costly, if only for the purpose of eliciting a smile from the mourner. A Christian chapel was erected in the palace of a descendant of Dgenghis Khan, and mass was said by Christian priests. All was fruitless: Maria remained silent and reserved. He who formerly had only delighted in predatory expeditions—to whom war was second nature, and who could shed torrents of blood without altering a feature—now became dejected, and, silent and absorbed in his own reflections, strode through the vast apartments of his palace. No prayers or remonstrances were of avail; he still courted

Maria's love without intermission. Though again and again repulsed, he could not bear to be absent from the object of his affection. Nothing was left undone by the mighty lord of the far-dreaded Tartars that could give pleasure to his beloved Maria. He tried to guess what were her smallest desires by her looks, and the adherent of Mahomet's proud doctrine neglected no opportunity to show tender solicitude and attention to the Christian woman. Maria observed it all, and was deeply moved. Her hatred gradually changed to regard. But still she could not bestow her hand on the enemy of her religion, and on the man who had torn her from her beloved parents and fatherland. Notwithstanding this, the Tartar Khan had become happy—the sad expression in his handsome and manly face had gradually disappeared. He resigned himself to the hope that he was approaching nearer to his long-cherished object, and peace once more took possession of his soul; when suddenly the heaven which he imagined he was about to enjoy was snatched from his grasp by the unhappy deed of a jealous rival.

The Khan had previously bestowed all his favour on a Grusian (Georgian) girl. Jealous of her new and fortunate rival, she only thought how she might gain the assistance of the other women of the harem, in order to rid herself of the detested favourite. It was easy to gain their favour by her dissimulation, but all

her intrigues were vain to destroy the beautiful Maria. At last the Eastern girl could no longer restrain her hatred, and one day thrust a dagger into the bosom of the innocent Maria, who sank to the ground without a cry.

Hardly had the terrible news reached the ears of the Tartar Khan, when the guilty ones were destined for a frightful punishment. He himself wandered through the spacious apartments of his castle like a distracted being, calling vainly upon his beloved Maria.

All the women of the harem were executed, and the murderess herself was torn by horses. A splendid mausoleum was erected over the grave of his mistress, and every morning and evening the Khan, seated on its steps, shed bitter tears of sorrow. Thus, day after day, and week after week, passed on. His happiness was gone for ever; but suddenly rousing himself, he once more plunged into the turmoil of war, where desolation followed in his footsteps. Villages and cities were buried in their ruins, until the unhappy man met the death for which he sought.

This tale seems to rest on a confused impression of the history of the fair Grusian Dilara-Beke; for, as we noticed above, no mention is made in history, especially in Polish history, of a Countess Maria Potocka, who was carried off by the Tartar Khan. The unfor-

fortunate Polish lady, however, continues to be spoken of in Baktchi Sarai, and a mausoleum is exhibited, said to be erected by the Khan in her honour. This is not placed within the castle, but in the large garden appertaining to it, and consists of a beautiful vaulted cupola without inscription. Besides this mausoleum, the afflicted Khan caused a fountain to be erected in one of his favourite apartments; this was intended to depict the state of his heart, and received the name of the "Fountain of Tears" (*Selæbit*). It is composed of several pyramidal cascades, one above the other. The water springing from the uppermost basin flows over its margin into a second, immediately beneath; as this is larger, and yet only contains the same amount of water as the one above, the latter flows in a smaller quantity, and again overflows into a still larger basin beneath. This is repeated several times, till finally the lowest basin is of such a size that the water can only overflow in the form of drops. These drops are meant to represent the tears which were shed every night by the mourning Khan. According to some travellers, this fountain is said to have an inscription, which certainly had no connection with the tale we have just related. It was as follows :—

"The countenance of Bagd-Sharai rejoices in the beneficent care exhibited by the enlightened Crim Ghiray. His protecting hand has quenched the thirst of the land."

"If there be any well like this, let it appear."

"Damascus and Bagdad have beheld many things, but never such a beautiful well. In the year 1167 (after the flight of Mahomet)."

The cemetery in the courtyard near the mosque is small, but presents a pleasing aspect, planted with all manner of shrubs and a few fruit-trees. It is not, however, the Tartar Khans who have made most figure in the world that lie buried here. Except the two lofty mausoleums, which are also in the form of cupolas, the space is occupied by simple graves. The tombstone had the names of those who lay beneath inscribed in Arabic and Turkish, legible to any one conversant in these languages. Most of the gold inscriptions on the two mausoleums were probably sayings from the Koran.

Having viewed the royal residence of the Khans, we hired a couple of horses, and proceeded through the remainder of the single street which forms the town of Baktchi Sarai, partly in order to see the upper portion of the ravine, which becomes still narrower and more picturesque, and partly to learn some more particulars about a celebrated Jewish fortress. Three-quarters of an hour elapsed before we reached the termination of the two rows of houses, and passed from the habitations of the living to the tombs of the dead. The Mahometan cemetery has always a pleasing appearance, and never possesses the melancholy air of many of the Christian burial-grounds at home. In place of the *memento mori*,

or other dismal imitations of the human skeleton, we here see happy human beings, together with the friends and relatives of the deceased now lying beneath ground, who, without being overwhelmed with grief and mourning, reflect only with pleasure on the brother who has preceded them, and, elevated now above all earthly troubles, is tasting the joys of Paradise. No lofty wall encloses the consecrated space to protect it from injury or mischief; the unpolished Islamite, let him be ever so young, cherishes in his heart a respect for all graves which never quits him.

The valley had gradually become more contracted, and we arrived at a gipsy village. Sad, and even revolting, as it may be to behold these outcasts in all parts of the world—though here, perhaps, even more miserable than elsewhere—their resolute adherence to manners and customs, and attachment to an independent and unshackled life, as well as their aversion to the fetters of our civilisation, frequently, alas! more apparent than real, is indeed most singular, and I might almost say claims our respect. The gipsy ought not to be regarded with that contempt which, unfortunately, is too often displayed. Their early, no less than their later history in Spain and Hungary, offers us examples of magnanimity and of sound natural sense, and exhibiting fewer eccentricities than usual, all of which deserves our full acknowledgment.

Our administrative regulations render it, indeed, necessary not to countenance gipsy life ; but I would merely point out that even these people, wretched and pitiable as they are according to our notions, yet possess some qualities which may be regarded from a favourable point of view. Does the wild Bedouin in the desert live a different life from the gipsy at home ? In general it is only the poetical side of the life of the former with which we are acquainted, but the latter are known to us in all their unvarnished reality. Nothing hinders the Bedouin from indulging in his propensity to unbridled freedom ; but the gipsy must conform in all places to the customs of the country in which he passes his wandering life. It is not he alone who feeds on hedgehogs, rats, and mice, for the Bedouin in Arabia catches the same creatures alive in the desert, and eats them raw. A desert rat in Arabia has more than once produced a violent contest for its possession, even among the inhabitants of one and the same tent.

The ravine shortly afterwards divides and becomes still narrower, the rocks descend abruptly, and a sharp ridge, in some places overhanging the cliff, forms a border to the uppermost terrace. Caves, inhabited by man in very early times, before he had acquired the art of constructing houses, abound throughout the limestone, which is very easily worked. Here the

inhabitant of the valley secured himself from the attacks of those who lived in tents upon the Steppe. Several centuries ago, after the Christian Cross had once more supplanted the Crescent in the Crimea, an image of the Virgin was discovered in one of these caves. The news of this happy discovery soon spread through all the neighbourhood, and its fame extended wider from year to year. Many came to gaze upon it ; miracles were performed, which caused the annual crowd of people to become still greater. Pious men settled within the cave, which the munificent benefactions of believing Christians soon converted into a more habitable chapel. But this, also, in a short time became too small to receive the pilgrims who resorted there, especially on particular feast-days. They were compelled to contrive an additional building, perched like a swallow's-nest upon the rock, and a gilded cross, glittering from afar, now tells the wanderer who is pursuing his path in the valley beneath that above him there is a holy spot. He who would visit it, however, must have a steady head, for the steps are cut into the precipitous rock, and it is only by ladders that the pilgrim reaches the different breaks of the mountain-side. Woe to whoever makes one false step ! It is marvellous to me that no accident should have yet occurred. Although only inhabited by two priests, who perform regular service in the chapel, yet the place bears the name of a convent.

The monastery of Uspenskoi, as is generally believed, does not mean the "Rock Convent," but "The Convent of the Assumption of the Virgin Mary."

We rode on farther, and beyond the convent, close to the edge of the cliff, soon perceived the houses of the Jewish fortress, for such is the signification of the Tartar name Chuphut Kaleh. It had a most singular appearance, reminding me of what I had sometimes seen in Asia—houses above, and caves, the oldest habitations of mankind, beneath. The ravine gradually disappeared, and from this point the road became so steep that we were obliged to dismount and go on foot. Arrived at the top, I once more saw the small houses, or Saklis, which are so common in Grusia and elsewhere. The inhabitants of Chuphut Kaleh enclose a square space of ground with stones laid one upon the other, but without any mortar: this they call their dwelling, and enclose it above with poles and wickerwork, on the top of which is placed a layer of loam. The houses of those in more affluent circumstances, of whom there are a greater number in this place than elsewhere in the East, were generally constructed in the same manner, but the larger enclosure was divided into several apartments. Those belonging to the richest inhabitants had even an upper story, where the family resided, and to which they ascended by a wooden staircase from the outside:

the lower room, in that case, served as a storehouse for the goods, and now and then for the reception of the cattle, though, generally, the stables were placed in the rock caves that were easily accessible. The house itself generally stood at the farther end of a small courtyard, separated from the narrow, crooked street by a wall.

We had heard such a favourable report of the priest at this spot, Rabbi Solomon Beim, that we did not hesitate to go in search of him, trusting to learn much about his countrymen, who form a peculiar sect, and are called the Karaim or Karaïtes. We were not disappointed, for the rabbi not only received us with the greatest kindness, but constituted himself our guide. The knowledge of several languages is by no means a rare qualification in the East: Rabbi Solomon Beim spoke eight languages with facility, conversing with us in German. Although still young (he could scarcely have reached the age of thirty), he is nevertheless regarded as a scholar by his companions in belief, as well as by others; and it was evident to us, before the expiration of the first quarter of an hour, that he was no ordinary Jew.

I was struck with the appearance of the inhabitants of Chuphut Kaleh, for in their physiognomy and in the structure of their bodies they are extremely different from our Jews. Although smaller in stature,

their bodies did not appear stunted ; the head is not elongated, but rather spherical ; their full face, also, round in form, without the sharp outline of feature, was not in the least Jewish. The German Jew has generally a large nose, but in the Karaïte, on the contrary, it may rather be reckoned small than of a moderate size ; and they have a tolerably straight line of feature, similar to the Grecian physiognomy. Their round eyes have also a dark ring which is hardly distinguishable from the pupil ; the mouth appears particularly small, and the chin hardly advances at all ; their hair is decidedly black, but not as harsh as that of the Jews in Germany, though also without gloss ; and they seem to have scanty beards.

In their dress they differ very little, if at all, from the Tartars in Baktchi Sarai, and it is only since the Crimea has acknowledged the supremacy of Russia that they have made the distinction of no longer shaving their heads according to Mahometan fashion, and also, with the exception of those customs which are prescribed by their religion, they have no distinction of manners, and use the Tartar language. They generally live by trade, and have their booths for work and for sale in Baktchi Sarai. Thither they repair early every morning, and return home in the evening before nightfall. By Mr. von Haxthausen's account, whose admirable work, ' Studien über

die innern Zustände Russlands' (Studies on the Internal State of Russia), cannot be too strongly recommended, the Karaïtes employ a Tartar dialect, more generally spoken in the East, namely, Dshagatai.

The Karaïtes have lately attracted the notice of men of learning as well as the Russian government; and since, during my journeys through the Caucasian provinces and in Armenia, I endeavoured to obtain information about the Jews resident in those parts, it might not perhaps be altogether useless for me to offer my views upon the subject, still more because they in some measure correspond with the results obtained by the adherent of the sect, Abraham Firko-vitch, who was specially commissioned by the Russian government to institute researches on the origin of the Karaïte Jews.

The Karaïtes are chiefly distinguished from other Jews, the so-called Talmudists, by their not including the Talmud, that is to say, the later traditions, among their sacred books. On most points, indeed, they coincide, but yet there are some customs which again materially differ. As Mahometans are permitted four wives, so also were the Karaïtes, yet it was very seldom that any of them took advantage of this custom. During the hay month (July) they have only one feast-day, while the Talmudists have two. Finally, in killing their cattle, their mode of taking out the

entrails is not performed according to the same formal rites, &c.

According to the latest researches, it is probable that the Karaites are descended from the Jews who were led into the Babylonian captivity, and who did not return to their own country. During my previous travels I have several times had occasion to speak more at length about the Jews, who long before the destruction of Jerusalem had settled in Armenia and the Trans-Caucasian districts, as well as to the east of the Caucasian range, especially in Daghestan; and I have mentioned that many tokens exist to prove that they were constantly in communication with their countrymen after their return to Palestine. I must therefore refer any of my readers who are more particularly interested in the subject to my two works — ‘Reise durch Russland nach dem Kaukasischen Isthmus,’ 2 bd. (‘Journey through Russia to the Caucasian Isthmus,’ 2 vols.), and ‘Wanderungen im Oriente,’ 3 bd. (‘Wanderings in the East,’ 3 vols.).

If the Armenian Jews and those inhabiting the Caucasian isthmus quitted their former country long before the Christian era, the bonds which united them probably became somewhat relaxed before the destruction of Jerusalem, and after that period must have been entirely dissolved, and latterly all connection appears to have ceased. The Armenian and

Caucasian Jews preserved the laws of Moses in a far purer form, because most of them, especially those in Daghestan, were enabled to follow the worship transmitted to them from father to son without interruption. It was very different, however, with those who remained behind in Palestine, and were afterwards exiled, or who had saved themselves by flight; for, in the very subordinate position they then held, many things were adopted into their worship belonging to the nations among whom they lived, but this frequently was only determined by circumstances. The cabalistic disputes among the Christians were transferred to the Jews resident among them, though exhibited among these last under a different form. The doctrine of the Talmud was chiefly framed in the schools of Tiberius and Babylon between the fifth and eighth centuries according to the Jewish calendar. It took deeper root year by year, and at length was effectually established. In this manner the worship of the Talmudists naturally became more estranged from that of the Jews living in Armenia and the Caucasus, the more these last remained true to primitive Judaism, which is equally applicable to all the adherents of the Old Testament, who, before the introduction of the Talmud, were no longer connected with their countrymen. Thus a large number of Jews resident in China likewise know nothing about the Talmud.

A portion of the Jews in Armenia and on the Caucasus became acquainted with the Talmud only at a very late period, and received it through the repeated exertions of their brethren in Constantinople. I have also spoken more at length upon this point in the third volume of my 'Wanderings in the East.' A violent contest arose among the Caucasian Jews on the introduction of the Talmud ; those who remained faithful to their belief were compelled to emigrate, and repaired to the Crimea, where some of their fellow-believers already resided. But, according to the historical documents of the abovementioned Abraham Firkovitch, the presence of Jews in Chuphut Kaleh may be traced as far back as the year B.C. 640 ; and, according to the same scholar, some Jews still continue to reside in the Caucasus who do not acknowledge the Talmud, but these seem to be very few in number. A few Karaïte Jews are also to be met with in several of the western and southern dependencies of Russia.

From all this we must conclude that the Karaites can in nowise be regarded as a Jewish sect which has separated from the mother-country. On the contrary, these are the very Jews who have preserved the pure doctrine, while the Talmudists, on the other hand, have considerably deviated from it. The present Reform party among the German Jews have endeavoured, at least partially, to restore the primitive

Jewish worship, thereby considerably approaching the Karaïte Jews.

The Karaïtes are far more tolerant in their judgment on those differing from them in belief than the Talmudists. This circumstance, probably, is the reason why their residence among the Mahometans and Christians here occasioned less difficulties than in the former case : so far as we know, the Karaïtes have never suffered persecution for their faith. They are also far more industrious, and consequently more prosperous, and have by no means the bad reputation of the Talmudists with respect to fidelity and honesty.* On this account tradespeople in Sevastopol intentionally announce on the signboards which are suspended outside their shops that they belong to the sect of the Karaïtes.

There are different opinions with respect to the

* As the natural effect of protracted persecution is to lead to the demoralization of the sufferers, it is not surprising that the Jew should, in most countries, be noted for the absence of these qualities : for, to use the words of the Rev. Dr. Welsh, late Professor of Ecclesiastical History in the University of Edinburgh—"In no history have we more remarkable illustrations of the great truths, that to enslave is to degrade, and, to render men useful citizens, it is essential to bestow upon them the rights of citizens." (See Article *Jew*, 'Encyclopædia Britannica.') The higher reputation of the Karaïte Jews may, accordingly, be chiefly traced to the comparative freedom and equality in which they were permitted to live with their Mahometan and Christian neighbours.—*Fa.*

origin of the word Karaïte. It is most probable that the Jews who were transported from Assyria and Babylonia into Armenia bore that name. Others believe that the designation Karaim, or Karai, belonged originally to the adherents of Rabbi Aman, who went to meet the Talmudists in Syria, and who is said to have founded a peculiar sect.

It is probable that a considerable number of Jews resided in the Caucasus during the first century after Christ, and perhaps directly influenced the Khazars in their adoption of the Jewish religion. At all events, it is a singular phenomenon that a whole people should at once adopt a religion whose adherents exercised not the smallest influence, and were already more or less despised. It is as inexplicable whither the Jewish Khazars went after their expulsion. As their rulers chiefly resided in the Crimea, it is not improbable that a number of Jews from the Caucasus were permitted to settle among their new fellow-believers in the Crimea. The oldest document of the Karaïtes in Chuphut Kaleh dates, in fact, from the flourishing period of the Khazars in the Crimea, namely, the seventh century. My friend in Cuba, therefore, was not so far wrong when he asserted that the Crimean Karaïtes were originally derived from the Caucasus, except that he believes that the emigration occurred at a far later period. Our amiable host, Rabbi Solomon Beim, when

I communicated to him what I had heard in Cuba, also acquiesced in this view, especially as traditions are still extant among his countrymen that their ancestors had come from the neighbourhood of Derbend.

We next visited the newly-erected synagogue. It has certainly nothing remarkable in its external appearance, but possesses all kinds of precious vessels, most of which, even a number of candlesticks, were fabricated of the purest silver. I was still more interested with a parchment roll, in which the Old Testament was most neatly and elegantly written in Hebrew characters. Unfortunately I saw none of the various other manuscripts mentioned by Baron von Haxthausen, and from which he promises so much for the correction of the Bible text, and for the cause of history.

It is probable that during the early period of the Tartar rule the Khans fixed their residence in this stronghold of Chuphut Kaleh; at least we might imagine so from the numerous Tartar gravestones. Among others, the friendly Rabbi showed us a small but ornamental mausoleum, which only consisted of a single cupola. Here it is said lies buried the beautiful daughter of a Tartar Khan named Toktamish. Who was this Toktamish?—Whether the unfortunate ruler of Kiptchak, who lost his life and his crown in a battle with Timur, or whether another, was as little known to Solomon Beim as if, perhaps, it had any connection


with the husband of the beautiful Khan's daughter, the Genoese Yefrosin.

It was late in the evening before we began to retrace our steps. The goodnatured priest conducted us first to the cemetery. It is situated further down, nearly at the entrance of the ravine, which here bears the appellation of the Valley of Jehoshaphat. The Jewish burial-grounds have elsewhere always made a melancholy impression on me, especially in Constantinople and in Asia ; but here it was totally different. I indeed saw the same dazzling white limestone slabs, but the gravestones stood beside one another in perfect order, frequently closely covered with gilt inscriptions, and the hallowed spots were shaded by oaks and elms. The glaring white was wonderfully softened by the lovely green of the foliage of the trees, but one gravestone exactly resembled the other.

The sun had already set when we once more approached the convent of the Assumption of the Virgin Mary. Luckily, however, we had the feeble light of the full moon. I know not why I have always from my childhood enjoyed looking at rocks by moonlight. I perfectly remember, before leaving school, I spent all the moonlight time of a journey in Saxon Switzerland in visiting the most interesting points, especially the neighbourhood of the Bastei. The rocks assume a very different aspect by moonlight from what they do

in bright sunshine. Rough and strange masses are softened down, the outlines are not so clearly perceptible ; then, again, other parts appear more beautiful from the shadow produced by the moonbeams. The obscurity behind the illuminated projections affords the imagination room to create fresh images ; and if by chance the wind moves a tree, causing it to stand out from the shadow of the projections, these seem suddenly to become alive.

We once more reached the gipsies and their glaring fires, and again heard the loud sound of the swinging hammer, for gipsies, as every one knows, are all blacksmiths from the cradle. The erect tombstones of the Tartar cemetery, each provided with its turban on the summit, cast long shadows, and seemed, ghost-like, to advance with quiet pace, in the same manner as ourselves on horseback. The noisy bustle of day was over, and the streets of the Tartar city were silent and deserted. It was only in the coffeehouses that a dim light was burning ; otherwise it was perfectly dark, for the backs of the houses are here turned towards the street, or lie concealed in the courtyard. At length we reached the posting-house from which we had started on our expedition. It was situated beyond the ravine in the open plain, and we determined to employ the clear moonlight night by accomplishing another stage of our journey.



CHAPTER V.

SEVASTOPOL.

The tongue of land — Relative position of the ground — Chersonesus — The Goths — Origin of name Sebastopol — Harbour — Fort Nicholas — Docks — Quay — Library — Church — Kosarsky — Catherine II. — Boulevard — Fleet of the Black Sea — Tchernaiia Retchka — Inkerman — Canal — Tunnel — Caverns — Ravine of Otchakov — A superannuated sailor.

WE were soon resealed in the little post-carriage, and our three horses carried us on at a rapid pace. Half-way, the distance being twenty-three versts (nearly fifteen English miles), we entered the pretty basin-shaped valley of the Belbeck, which had the appearance of one entire orchard and vineyard. By what the Tartars say, the finest apples are procured from hence. The village lies in the valley, and, extending for a considerable distance, bears the name of Duvankoi, *i. e.* the village of Duvan. It has a most pleasing aspect, for each house is surrounded by an orchard. Here we halted at the post-house, and had our baggage carried within, determining to pass the night at this spot, in order that we might push forward early the next morning to Sevastopol, little more than seven

miles distant. At daybreak we again seated ourselves in the carriage, and one hour afterwards reached the harbour of Sevastopol, where a boat conveyed us to the town on the opposite side. A German inn once more gave us shelter, but, hardly allowing ourselves time to drink a glass of coffee—in Russia, as in South Germany, coffee and tea are generally drunk in glasses—we started on our wanderings through the very singular town. Our obliging landlord, who is generally known throughout the town by his Christian name of John (or, as it is pronounced by the Russians, Yoggann), had given us needful information, so that we were enabled without delay to obtain a good survey of the whole town.

The ground on which Sevastopol is situated is so interesting in every respect, that it well deserves a minute description. The Caucasus at each extremity terminates in a narrow tongue of land, and the Crimean coast-range resembles it in this respect, at least at its western extremity. A peninsula has thus been formed about fifteen English miles long, passing from east to west; which again forms a plateau nearly nine miles broad, and about forty-three miles in circumference, divided by innumerable ravines, which continue some distance to the east, and is there separated from the continent by a valley, at the upper extremity of which flows a stream, while

the lower portion, of great depth, is filled up by the sea. A narrow bay has thus been formed, one of the finest harbours in the world, which has been therefore permanently adapted by the Russian government as a military harbour for the fleet of the Black Sea. There are besides four ravines on the northern side of this tongue of land, which are also of considerable depth, and are supplied with water from the great harbour.

According to Dubois de Montpéreux, these depressions are not occasioned by the washings out of the sea, but may be attributed to volcanic agency. The overlying very modern rock, which according to him belongs to the steppe limestone, has been repeatedly altered by eruption. Fossils are found but rarely, and these few have been so much altered, that, in the bay of Sevastopol at least, they can none of them be determined with precision. The farther, however, we turn towards the east, accordingly in the direction where the volcanic influences were less apparent, the shells become more abundant, and we obtain the highly interesting fact, that, at first marine, they are afterwards of fresh-water origin; but that in some parts both are mingled together. The rock besides becomes older, proceeding southwards; to the north of the peninsula it belongs to the latest tertiary period, while the south is bounded by the Jurassic formation.

The plateau is very barren, at times suffering from

want of water. Its surface represents a genuine pampas, covered only in early spring and autumn by a scanty vegetation. As I sauntered about, I only saw a few Knapweeds, with small flower-heads (*Centaurea diffusa*, Lam., and *C. alba*, L.); Horehound, with greyish downy leaves (*Marrubium peregrinum*, L.); Wormwood (*Artemisia pontica*, L., and *maritima*, L., *s. taurica*, Bieb.); the fork-branched *Seseli dichotomum*, Pall., and *S. tortuosum*, L.; and the inconspicuous Goosefoot (*Chenopodium urbicum*, L., *album*, Koch, *Atriplex roseum*, L.), &c. &c. It is only at the junction of the tongue of land with the continent that there is a grove of oaks.

It is probable that as early as the sixth century B.C. some traders from the Pontian Heraclea settled on the northern harbour, and bestowed the name of their paternal city on the new colony. The dry unproductive soil of the peninsula bore, however, no resemblance to the green and cultivated districts about their home, which occasioned the Greeks at a later period to give it the name of Cherronesos, or Chersonesos, i. e. barren island. That they might distinguish it from other peninsulas (for Chersonesos also means, in Greek, a tongue of land jutting out into the sea), it received in addition the surname of the Heracleotic Chersonesos. After a time, the town, which assumed the name of Cherson, became still more important,

from its inhabitants having been enabled to appropriate the whole trade of the northern and western coasts of the Black Sea, by which it attained opulence and power. Jealous of their prosperity, it was in vain that the Bosporanic kings, on the farther side of the Crimea, endeavoured to humiliate them. On the contrary, the former generally came off the worst; and during the period of the migrations of nations, while Panticapæum perished, and all the kingdoms and nations to the north of the Black Sea were lost from the book of history, Cherson, although deprived of her former importance, and in spite of all the storms which assailed her, still maintained her independence. While the Crimea was inhabited by the Goths, they appear to have also taken possession of Cherson, for Procopius mentions it distinctly as a Gothic town.

The history of the Goths, while in the Crimea, has never been sufficiently explored, though it is a subject of the utmost value and interest. We are the more indebted to Professor Massman, who already has done much in the cause of German antiquarian lore, for now making the period of their residence in the Crimea the subject of special research; and in an essay which he delivered before the Geographical Society of Berlin, and which has been printed in the monthly reports, he gave due weight to the importance of his subject.

During the first period of the migration of the nations, the Goths retired into the rugged and inaccessible mountain-ranges near the coast, and remained there at least down to the sixteenth century. The Khazars then became masters of the Crimean peninsula, and it went by the name of Khazaria ; but the southern coast, and especially its western portion, with the tongue of land we have mentioned above, received the appellation of Gothia. The name Khazaria then disappeared from history, while that of Gothia was substituted for the same amount of territory. In a treaty between the ruler of the Golden Horde and the Genoese of Kaffa, concluded in the year 1380, Gothia was adjudged to the latter, which proves that some Goths must have existed in the Crimea at that period. The well-known tale, so often repeated, of the Dutchman, Rubruquis, who in the year 1253 heard the Gothic language spoken here, is assuredly no fable, but a fact ; and the barbarous hordes of Turks, as I had occasion to mention before, afterwards came down like tigers on the unfortunate inhabitants, consequently on the Goths, massacring them, or compelling them to abjure their faith and adopt Islamism. A contemporary writer relates the heroic defence of Mangup, a citadel now lying in ruins, by its two dukes, and describes them as the last remains of the Gothic nation and language. However, by the account of another author, who

indeed lived a hundred years later, these two dukes were said to have been Greeks.

Having passed some little time on the southern coast, I had frequent opportunities of becoming acquainted with the inhabitants resident there. They also indeed bear the name of Tartars, but are perfectly distinct from those on the northern plains. There is no question that they have a totally different origin, with perhaps not a single drop of Mongholian Tartar blood in their veins. In height they are very similar to their fellow-believers, but vary so much in physiognomy and bodily structure, that the difference is apparent to all, even to a cursory traveller. I certainly do not know the appearance of the Goths, and I would not pronounce with decision that the Tartars of the mountain have a Gothic origin. They indeed bear a strong resemblance to the Greeks, and there can be no doubt that Grecian blood flows in the veins of at least some among the Tartars on the southern coast. They are generally as small-made as the Greeks, handsome, though rather thick set, but all of them have a noble line of feature. It is no uncommon circumstance to see the women and girls unveiled.

After this digression, which I hope is not devoid of interest, I must now return to the description of Sebastopol at the present day. The Russians pronounce the Greek *beta* like our *v*, and call the town Sevastopolis.

Few towns have their meaning expressed in their names, but Sevastopol forms one of these exceptions. It signifies an "imperial city," or one commanding reverence. We need only look at the three pairs of batteries which guard the entrance of the harbour, or at the gigantic works of the admiralty, docks, &c., constructed by the Russian government now some ten or more years back, and of which I shall presently speak more at length, to acquire the proper degree of respect. During the first centuries after the Christian era, Dioscurias, which in still earlier times was the most valuable emporium on the eastern coast of the Black Sea, received the name of Sebastopolis from its rulers at that period, the Emperors of Byzantium. But no sooner was this proud appellation bestowed upon the city than it began to decline.

Such, however, is not the case with the Sebastopolis of the present day, which has annually gained in importance. No spot on the Black Sea seems to be more destined to play an important part than Sevastopol. While the name Sebastopolis was transferred from the eastern coast of the Black Sea to the Russian military seaport, the designation of Cherson, the ancient city on this spot, was given to a trading town at the mouth of the Dnjepr, of which vast expectations were formed, which hitherto, however, have not been justified by the result.

♦

I shall begin the description of Sevastopol by the harbour : it runs for about two miles and a half inland, gradually becoming shallower, and at the entrance is nearly three-quarters of a mile broad. Northwards the bay is bounded by a high coast ; but to the south, as I before mentioned, four smaller bays run into the tongue of land, on all sides surrounded by tolerably precipitous banks. The two in the centre are used as military harbours. They have a depth of nearly forty feet, even at their upper extremity, and therefore can receive vessels of the largest size. The first bay, near the entrance of the harbour, is the only one into which merchant-vessels are permitted to enter, and is named Artillery Bay ; while the last, bearing the name of Careening Bay, is not employed at all. Although the sea is tolerably deep, even outside the harbour (for at the entrance it amounts to seventy or eighty feet and more), yet, to secure the entrance, they have taken the precaution to build at a little distance two lighthouses ; and any one wishing to enter the harbour without risk must be careful that the one lighthouse entirely conceals the other, so as to cause only one to appear. The harbour is so spacious, that it not only affords secure shelter for the Russian fleet of the Black Sea, but also for all the merchant-vessels ; and even were the number twice as great as at present, they might here elude the wiles of an enemy.

It may easily be imagined that the Russian government has taken the greatest pains to protect her own vessels in the harbour, and at the same time to prohibit the entrance of all foreign ships. For this purpose four strong batteries, two on either side, are planted at the entrance of the Great Harbour, from whose guns the most fearful cross-fire can be maintained. The two outermost batteries bear the names of Alexander and Constantine. When I was at Sevastopol only one inner battery on the southern side, situated east of Artillery Bay, and bearing the name of Fort Nicholas, was nearly completed, while they had only just commenced operations upon the one on the opposite side.

We were permitted to take a nearer view of Fort Nicholas ; the sight of so many instruments for destruction awakened within me sad reflections. It forms a tolerably regular half-moon, and is composed of three tiers of batteries, and, as might be supposed, the entire building is bomb-proof. I was surprised to find that the soft steppe limestone of Inkerman has been employed in its structure, as, when exposed to wind and weather, this crumbles far more rapidly than granite and other Plutonic rocks, which might have been obtained in the neighbourhood, especially a particularly hard kind of greenstone (diorite). A soft rock, however, is perhaps better calculated to

resist bomb-shells; and we have lately seen, by the conquest of Bomarsund, that granite cannot withstand the missive weapons of the present day for any length of time.

The shells and grenades were on the ground tier. I saw the furnaces where the shot are made red-hot before they are discharged. Each of the three batteries was armed with 196 cannon. The large guns (64-pounders) are placed in small separate casemates set apart specially for them; the space behind the guns was used for offices for the garrison, and for other purposes. The larger casemates contained above twenty guns, and at the same time served as barracks for the soldiers. I have already several times had occasion to notice the perfect order and cleanliness of the Russian barracks, but they here seemed even cleaner and neater than usual. I was told that a fourth battery would in time be constructed to surmount the rest. It has already been done in the two outside forts, but these are smaller, and have altogether only 360 guns each.

The actual town of Sevastopol is built in an irregular and scattered manner, but has on the whole a cheerful aspect. It is situated on the tongue of land nearest to the sea, and runs down to it on one side, while on the other it rises up the elevation of the whole peninsula, and extends still farther at its base, behind

the four bays. The small intervening tongues of land are also used for different purposes, but chiefly for barracks. A small spur of land stretching into the military harbour has been levelled with the water, in order to afford space for the erection of a new admiralty or dockyard. This was indeed a gigantic undertaking, and several hundred men laboured at it for years without intermission. The work was done by contract, and the contractor, formerly an officer, received above 15,000*l.* for the undertaking. I have been told that it was absolutely required that the mountainous projection should be removed by the year 1851, and that accordingly it was entirely demolished before that time. In order to facilitate the removal of the tuff and soil, some iron rails were laid down, by which means a few men were able to remove enormous loads with facility.

The docks are on no less magnificent a scale, and have only been completed a short time since. Here the vessels are built and placed under repair. The task had been hitherto almost impossible in the case of line-of-battle ships, but is now effected with great facility by means of these docks, consisting of three basins, placed one behind the other on different levels. Each basin is so spacious that it would be possible for two line-of-battle ships to enter at the same time. If a vessel has to be repaired, it is brought out of the

harbour into the first basin, where the water stands on a level with the harbour, and is then separated from it by water-tight flood-gates. Both the other basins are dry, being situated above the level of the harbour. Water is then admitted into the lowest basin by means of an aqueduct placed on a higher elevation, and of which I shall presently speak more at length, till this is so far filled as to be on a level with the water in the second basin, where it is also admitted. The vessel naturally rises with the rise of the water, and is presently higher than the level of the harbour. It is then brought into the second and central basin, and a second sluice cuts off the lower basin from the central one. The water is then once more permitted to flow from the lower basin into the harbour; the central one, on the other hand, receiving a sufficient supply from the aqueduct, so as to bring the vessel on a level with the uppermost basin, and thus enable it to enter there. This then is also cut off by a sluice, and afterwards, by re-opening the sluices, the water is allowed to escape, first from the central basin, but finally from the uppermost basin, so that the vessel, without receiving any injury, is left on dry ground, and, with very little difficulty, can undergo repair. The dock where this takes place is forty feet above the level of the harbour. It is so spacious that three line-of-battle ships, two frigates, and several smaller

craft might be taken in hand at once. Seven smaller reservoirs are also connected with the first large basin, into which the water flows directly from the aqueduct. Those inhabiting the interior of a continent can have no idea of the expense incurred by constructing such a dock. For instance, to state one among many things, the sluices alone, which were brought from England, cost 270,000 silver roubles (34,875*l.*).

An Eling was also built near the docks. By this term (named after the inventor) we understand a contrivance by which smaller vessels can be placed under repair. The ship, for instance, is provided with a shield, and thus, by means of machinery, is transferred from the water on to dry ground. In spite of the shield, however, and every precaution, the vessel sustains more or less injury during the process. The Eling was to be completed the year subsequent to my visit, and has consequently now been employed for a considerable time.

I was no less struck by the appearance of the Quay, which, though also not entirely finished, was yet, so far as I saw it, very beautiful. The casings and pillars, &c., are all built of granite, which were conveyed to the banks of the Boug at great expense, and thence brought hither; the pavement was, however, greenstone from Aloupka and other places on the southern coast, and I was told that square blocks of

limestone were employed for the foundations. At all events, this must be a more solid limestone than what is worked in the neighbourhood.

The town itself has a particularly cheerful appearance, from trees growing in front of many of the houses, and there are even some arbours, chiefly formed by vines. In this respect Catherine Street deserves to be mentioned before all the others, especially as it is not so inordinately wide as is usually the case in Russia. The officers and those in high official situations reside not far from the military harbour; the married sailors, non-commissioned officers, and subalterns, on the other hand, nearer the sea. The tower-like building containing the library stands on a high point of the city, and might be taken for an observatory. No doubt it would not appear so elevated if other lofty buildings were near it. A wide handsome staircase leads to the apartments within, and is ornamented by a sphinx on either side. The interior of the building seems arranged with taste, but is also adapted for practical objects. All kinds of vessels are represented on the walls in the form of bas-reliefs. There is an extremely beautiful model of a ship in the centre of the reading-room.

A new church stands not far from the library, which has been copied from the Temple of Theseus at Athens. It is a Basilica, surrounded by Dori

columns, and is distinguished advantageously from all other Russian churches by the extreme simplicity of the interior, not being overloaded as usual with indifferent or bad pictures.

After this we visited the monument dedicated to Kosarsky, which is also remarkable for its simplicity. During the last Turko-Russian war, Kosarsky by chance got between two enemy's line-of-battle ships. As they were on the point of boarding him, he solemnly declared that in that case he would blow up his own ship as well as that of the enemy. The latter then attempted to sink his vessel, the brig *Mercury*, but were so unskilful that Kosarsky was enabled to escape, and, although not without damage, to reach his own friends in safety.

At the end of Catherine Street stands the small dwelling inhabited by Catherine II. during her short residence here. Some Tartars had conspired to murder the Empress, but happily their scheme was betrayed, and she hastily fled from the danger by which she was threatened. Unfortunately the small and spruce-looking house, only consisting of one ground story, has not been left in the condition it was in at the time of the Empress's visit.

To the south of the town, where the tongues of land are connected with the peninsula, is situated the pleasant boulevard, the walk most frequented by the

inhabitants of Sevastopol. From this position a part of the town, the whole of the harbour, the opposite coast, and a considerable extent of open sea may be surveyed. Farther towards the east, and therefore away from the sea, at the commencement of the oak-grove which I before mentioned, the hospital and barracks have been erected. As may easily be imagined, no inconsiderable number of sailors and soldiers reside here, especially during the winter months. The numbers reported to me differed, some saying they amounted to 15,000, others to 20,000 men. There are also some barracks on the opposite side of the harbour. The number of resident inhabitants who pass the whole year at Sevastopol does not exceed 8000 to 10,000 souls.

We took advantage of the fine weather in the afternoon to visit, up to its source, the remarkable aqueduct which conveys the water to the docks, and at the same time in taking a survey of the celebrated caverns of Inkerman, of which we had heard much. For this purpose we hired a boat, and an old sailor was our guide.

I will here take occasion to say a few words about the fleet of the Black Sea. With few exceptions all the vessels had come into port, and several had even already been stripped; we, however, went over one of the frigates, which interested me extremely. During

my visit to Sevastopol, in the autumn of 1844, the fleet of the Black Sea consisted of—

15 Line-of-Battle ships
6 Frigates (2 were still at sea)
5 Corvettes
11 Brigs
7 Cutters
6 Tenders
2 Yachts
18 Transport-ships
14 ordinary Steam-vessels
2 Guard-ships
1 Bomb-vessel with three masts

Altogether 87 vessels.

These form two divisions, each consisting of three brigades and nine equipages. These last are not always equally strong, as, for instance, there are two neither of which possesses a single line-of-battle ship nor a frigate, and are each composed of only one corvette and several smaller craft. One division consists of only eight equipages in the Black Sea, as the ninth, composed of four brigs, one tender, two smaller steam-vessels, and fifteen other smaller craft, forms the flotilla of the Caspian Sea.

Having reached the extremity of the harbour, we ascended the river which enters it at this point. It is called by the Tartars the Great Water (Bouiouk Ouzine), as in this neighbourhood there are only a few insignificant streams besides this ; but the Russians

name it Tchernaiia Retchka, *i. e.* the Black River. It is a custom among those speaking the Turkish tongue, and probably of other Eastern nations, to call water which flows very slowly, black ; while, on the contrary, very fast currents are called white rivers, or brooks. Thus Kara-Su, *i. e.* the Black Water, is a very common appellation in the East for all sluggish as well as muddy waters. In like manner the Russians name many of the mountain-torrents of the Caucasus, Belaya Retchka, which is, the White Brook. The Tchernaiia Retchka, which we now entered, did in fact deserve its name, for the water was marshy and boggy, and entirely overgrown with reeds, rushes, and other marsh-plants.

The valley continues with nearly the same breadth for above five miles, even where the Tchernaiia Retchka flows in a broad bed ; it has, however, gradually filled with so much alluvium, that the bottom is now above the surface of the water in the harbour. Altogether it presented a very pretty scene, as the ground was covered with the most beautiful turf and a few trees ; the pointed-leaf ash (*Fraxinus oxyphylla*, Bieb.) chiefly adorns the picture by the beautiful crowns of its foliage. The heights which rise on three sides also seem more cultivated than elsewhere on the tongue of land.

On the right hand we perceived a smaller hollow among the hills, the upper portion of which has been

used for a reservoir to collect the waters of the few springs, but principally what falls in the rainy season, and at other times, or what is formed by the melting of the snow. The whole reminded me forcibly of the celebrated reservoirs at Constantinople. The water from this cistern is conducted to the great valley by an aqueduct, nine feet broad, which winds around the mountains, by which it is on one side enclosed. In order to avoid a ravine, and to obtain a greater fall in the remainder of its course, a bridge has been carried across this last, resting on six arches, about two hundred feet in length. The heights at its termination form a considerable projection, and render it necessary to make an excavation through the rock; consequently a tunnel has been formed, one of the most remarkable I have ever seen. Eighty sailors laboured day and night, relieving each other every four hours; and nevertheless it took fifteen months to complete the great undertaking. It was begun on the 19th (31st) July, 1832, and was not completed before the 19th (31st) of October in the following year. Happily the rock, especially where the work commenced, consisted of a greyish-green marl, not very hard, and easy to work; the nummulite limestone, which afterwards replaces the marl, must have presented greater difficulties.

The water flows, in a bed of its own four feet deep

and nine feet broad, through the tunnel, which is twelve feet broad and six feet high ; by this arrangement a space of three feet is left, which serves as a footpath on both sides of the actual canal. We were not afraid to traverse the whole length of the tunnel, which I was told was 133 sashenen, or Russian fathoms, long, therefore about 900 Prussian feet ; but by this we were ourselves able to judge of the merits of the structure.

Close to the entrance and within the tunnel there is an interesting cavern, as well as several smaller ones. They are said to have belonged to a church, and to have been formerly much larger in extent. Towards the close of the last century, so said our talkative sailor, some of the rock crumbled away, and a portion of the hill suddenly fell in. The soft rock (the greyish-green marl through which part of the tunnel is excavated) is unfortunately not in the least adapted to retain sculptures, especially decorations, for any length of time. This is probably the reason why I saw no traces of these. The sailors who superintend the conduit have pitched their tents here, and spend the entire summer season in these cells, probably inhabited by monks in early times.

Some other excavations in the rock, which were visible on the opposite side of the valley, but also close to the outlet, appeared to me far larger than these

caverns. As I had been so little satisfied with what I had seen of the caverns on this side of the valley, I felt no inclination to cross it in a slanting direction, in order to inspect those on the opposite side, especially as the sun was so low that it warned us to return. They are known by the name of the Caverns of Inkerman, a former citadel situated on the height, and have already been described by several travellers.

Our guide finally brought us back by the same boat in which we had come. The whole time we kept in view of that really grand undertaking, the aqueduct, which wound round the mountains, and through all the ravines. A second bridge, of tolerable length and breadth, has been constructed over the widest chasm, called, after its proprietor, Ouzakoff Ravine. This is far larger than the first; it rests on sixteen arches, and appears to be about 900 feet long. The soft limestone has also been employed in its construction.

There is very pretty scenery in this ravine, and it was converted into a park, in the centre of which I saw a neat country house. Among the trees which had been planted by man, we here noticed, besides the pointed-leaf Ash, the Pistachio-nut, which it so closely resembles. I did not admire the great pavilion, it was not built in true Chinese taste; and the variety of strong colours with which it is daubed made a very disagreeable impression on the eye. A tall mast,

towering up from its centre, had a strange but not unpleasant effect.

It became dark, and our good-humoured ferryman told us much of his earlier very varied life. He had served in the fleet for the last forty years, and at length, on account of his age, was relieved from active service; a pension was awarded him, but, alas! it was not sufficient to support him. For the present he had found employment under a seaman, who had been permitted, on payment of a fixed sum (5000 roubles), to furnish thirty-two boats for the accommodation of the inhabitants of Sevastopol, in exchange, of course, for some fixed compensation on their part, by which they were enabled to communicate with the different tongues of land and the opposite coast. The boats were of the rudest description, but seemed to be very durable. On an average, each of them cost between 110 and 130 roubles.

Before I proceed to the description of my farther journey, it might perhaps be interesting for me to make a few observations on the possibility of the conquest and final occupation of Sevastopol by the Western Powers. When speaking of Kaffa, I then observed that it had a strong claim to the attention of the Western Powers, on account of its situation and capability of being fortified; and at all events it is a place of far greater importance than Sevastopol. Ancient

Cherson was at one time a very important city, but it never attained the brilliant position of Kaffa, the present Theodosiopol; though we cannot deny that Sevastopol is a place of great capabilities for Russia: and so long as no powerful throne exists in Constantinople, able in case of necessity to maintain its ground, in the event of the certain and no doubt speedy fall of the Turkish empire, Russia would have immense advantage over all other powers, not excepting Austria. It is even averred quite openly by Russians that their Emperors regard themselves as the just successors to the Eastern empire; and it is not without reason that they have adopted the Byzantine double eagle into their coat of arms. It was not the peace of Unkiar Skelessi which first gave the Emperor of Russia a sort of right of inspection over all the adherents to the Greek Church, but far earlier, at the peace of Kutchuk-Kainardji, in 1774, thereby granting him a firmer footing in the Turkish empire than all the provinces ceded to him in Europe and in Asia. Jealous of the prerogative, Russia next endeavoured to baffle the claims of the Latin Church with respect to the Holy Places; and, unsuccessful there, then tried to indemnify herself by requiring the Sultan to convert the right of inspection hitherto claimed over the Greek Christians into a formal right of protection. The Turkish government perceived the danger by which, in its

thoroughly enfeebled independence, it was threatened ; at the same time conscious that all the Christian tribes, but especially the Greeks and Armenians, would never forget the oppressions and injuries they had sustained for centuries past, and would seize the first opportunity to revenge themselves on their oppressors. The Sultan, however, resisted the encroachment, and has indeed proved that, besides renegades and other powerful supports, some life-blood must still remain in a kingdom which could make such a stand.

In spite of this, however, the Western Powers do not disguise from themselves that the hour is possibly not far distant when, to use the common phrase, the sick man, though straining every nerve to retain the strength which still flickers for the moment, must nevertheless die. Before one of the Western Powers, even Austria, can hasten to the spot, Russia can throw a vast number of troops in rapid succession from Sevastopol into Constantinople ; and, once in possession of the capital, even though unaided by Greek sympathies, might not be so easily ejected. We have already seen the difficulties of the position, and how much time is required before armies of any size can be sent from France and England to the East ; though we cannot fail to admire the rapidity with which the French troops especially were transported to Turkey. We must remember that Russia has two dépôts in the

neighbourhood, from which reinforcements might be supplied at the shortest notice—Vosnesensk, the great military colony of Russia, situated not far from the mouth of the Boug, a navigable river; and the Caucasus, where hitherto between 160,000 and 180,000 men have been employed in opposition to the mountainous tribes. From this last, as we have already seen, 60,000 to 80,000 men might, without endangering the Russian provinces, either to the north or beyond the Caucasian range, be speedily embarked at Poti or at Soukhoum Kaleh, or might be employed in simultaneous operations in Armenia and Asia Minor.

We therefore perceive that the Western Powers and Austria are under many disadvantages, and accordingly that nothing should be left undone in order to be prepared for possible contingencies. The destruction of Sevastopol, and the annihilation of the by no means despicable Russian fleet in the Black Sea, would certainly offer security for the moment, and I believe that this is all which is now contemplated by the Western Powers, and that they have no intention of occupying the Crimea or Sevastopol on a permanent footing. The possibility of taking the latter place from the side of the sea is now very generally doubted. It is, however, perfectly feasible from the land side. Ten years back, when I was in Sevastopol, the harbour fortifications were still in course of erection, but the town

was open, and had no arrangements for defence on the land side. Whether this was provided against afterwards, I am not aware, but I doubt whether anything of much importance has been effected in that respect.

Sevastopol is certainly very favourably situated for a fortification, as it lies to the north of a tongue of land, about twelve miles long, and under nine broad, which might very easily be intercepted on the land side ; and, forming a kind of plateau, it is only connected with the actual coast-range at its south-eastern extremity. In the ancient days of the free state of Cherson, a wall was erected on the eastern declivity of the plateau, to protect it against the invasion of the Scythians and Bosporanic kings ; and this simple arrangement probably was sufficient safeguard from the warfare of those days, but at present a very different kind of wall would be required in order to conquer in an unequal combat. Considerable remains of this wall were to be seen at the commencement of the present century ; it began near Inkerman, and near the reservoirs for the water to supply the docks which I have before noticed, and then passed directly south to Balaklava.

It is impossible to disembark troops upon this tongue of land, on account of the rising ground on every side, and the absence of any tolerable landing-place. The disembarkation of the French and English troops con-

sequently must have occurred at the little town of Balaklava, or to the north of Sevastopol at the mouth of the river Belbek, or near Eupatoria. The first is accompanied with great difficulty; for allowing it to be a very secure harbour, the entrance is easily defended; besides, the valley of Balaklava is by no means sufficiently spacious to admit a large number of troops. By landing them to the north of Sevastopol, they have also the benefit of reaching the batteries north of the harbour with greater facility from behind; and once in possession of these, they would be able to act with a smaller force.

I have already mentioned that the allies will probably be satisfied with destroying the fleet of the Black Sea, and the fortifications of Sevastopol. A permanent occupation would cost the Western Powers enormous sacrifices, and yet finally would lead to no result. Sevastopol would never become a Gibraltar. The greatest difficulty attendant on a permanent occupation is the constant maintenance of such a large body of troops as it appears would be requisite for a place so remotely situated. Were all the Crimea to be conquered, together with Sevastopol, the difficulties would only be increased, as the vicinity of an ever-powerful enemy requires the utmost measures of defence to be maintained, especially as the sole object of the latter would be to regain possession of the peninsula. The

Crimea will never be able to support large armies in addition to its own population, for there is a total absence of water, with the exception of the small supply to be found in the few valleys; and, failing this, as even aqueducts cannot be constructed, it is impossible that fertility, and still less agriculture, should flourish. The belief in the great fertility of the Crimea, even now generally entertained by Russia, may be traced to the time of the great Catherine, whom Prince Potyomkin (Potemkin) attempted to deceive by planting ephemeral colonies. The present war in European Turkey has also proved how difficult it is to maintain large armies for any length of time in uncivilized countries.

Time will teach us the results of the present struggle. The Western Powers have also recognised the difficulties of their position, and, we may be sure, have not attempted to attack before they were certain of their object. All farther operations in the Baltic seem to have been relinquished this season, but not so in the Black Sea, where, at all events, some decided result will be obtained before the expiration of the year.

CHAPTER VI.

BALAKLAVA AND THE COAST-RANGE.

Ancient Cherson — Balaklava — The Læstrigonians of Homer — Parthenium — Expedition by moonlight — Baidar — The new road — A mountain-pass — Beautiful view — Vegetation — Kirkineis — High prices — The coast-range — Its structure — Precipice of Jura limestone — Yaila.

THE following day we determined to explore the ruins of ancient Cherson, or Korsun, situated south-west of Sevastopol. Such an exact description of the present condition of this celebrated trading city of antiquity has been given by Dubois de Montpéreux and Kohl that it might seem superfluous to enumerate the ruins still extant. I should also be in some perplexity, as the account in my journal, although it was kept with great exactitude, and in general accompanied me to the spots I visited, does not correspond with these previous descriptions. A great deal more was seen by both these travellers than by myself, as I only observed masses of stones lying one upon the other, and few remains of masonry, and was not even able to discover the ruins of a temple or a church.

I was, however, informed that a few years ago there

had been a far greater mass of ruins, and that probably in another ten years they would totally disappear. The erection of Nicolaev on the Boug first diminished the remains of ancient Cherson, which were undoubtedly more considerable before that period, for the splendid greenstone slabs were removed to be employed in the houses at that spot. Since the rise of Sevastopol the serviceable stone of which the ruins were composed has been used for a variety of buildings. This outrage, however, for I can call it by no other name, has been perpetrated rather by private individuals than by the government; for the Emperor issued a decree for the preservation of all the ruins of antiquity. I was shown several houses in Sevastopol which were said to be almost entirely composed of the stones of ancient Cherson.

On the afternoon of the 24th of September we quitted lovely Sevastopol, bending our steps towards the far-famed southern coast. I was compelled to relinquish my original design of making closer investigations of this tongue of land, and especially of its coast, in order that I might have sufficient time and leisure to study the southern coast, which has a far higher value for the naturalist, and thence to proceed to Odessa by the steamboat. Our vehicle, with its three horses, carried us rapidly across the classic ground of the peninsula towards the south, where a small Greek town, by name

Balaklava, is situated, with a bay stretching inland. The road thither was about twelve versts, therefore about eight English miles, in length.

I had already heard much of the peculiar site of this small town, but as we descended the plateau, and the hollow with the dark blue water in the midst gradually unfolded before our sight, it far surpassed all that had been said about it. The basin is about an English mile across, and, except one very narrow cleft, is enclosed on all sides by rather steep rocks several hundred feet high, and only partially covered with vegetation. The bay occupies nearly the whole of the cavity, and, on every side but the one opposite to which we stood, extends to the very base of the rocks, and is surrounded by a carpet of turf, on which the small town of Balaklava is situated, composed of a few private dwellings and a great many booths for the sale of goods. Its inhabitants cultivate corn and vegetables, and, in order to be near the product of their industry, they have settled on the declivity which we had just descended. This rural place, of larger dimensions, is called by the Tartar word Kadi Koi, which means the judge's village.

The inhabitants are Greeks, who quitted Turkey in the time of Catherine the Great, and, endowed with peculiar privileges, established themselves on the same spot where, more than 2000 years previous, their Mile-

Grecian countrymen in Asia Minor had also settled and founded the colony of Symbolum (the Cembalo of the Italians of the middle ages). This colony, however, never became of much importance, and was generally dependent on the powerful free state Cherson. When the Genoese had obtained a firm footing on the southern coast, Cembalo was soon brought under their control, but, with their downfall, it also fell to pieces. It was afterwards inhabited by Tartars, until, towards the close of the last century, these were again obliged to give way to the Greeks.

Eight thousand souls then quitted the Grecian Archipelago and settled in this place. They do not now appear to be nearly so numerous, but I do not know whether they have been diminished by sickness, or whether afterwards some of their number may not have selected other places for their permanent residence. The Greeks still retain their own jurisdiction and an independent congregation, whose head is alone responsible to the Russian authorities, and lays before them an annual report of their proceedings. They are released from being recruits, but compelled to organise a battalion of 500 men, and to keep watch over the whole of the southern coast so as to prevent the admission of any contraband foreign goods.

As I was walking beside the dark waters I observed some Medusæ, marine creatures, and therefore the best

proof that this was not an inland lake, but a bay connected by a narrow passage with the sea. I was curious to become better acquainted with the celebrated fish "Cephal" and "Petuch," much praised here, but which Kohl considered extremely bad. It is possible that Cephal may be the sea-mullet, *Mugil cephalus*, L., for the French employ the same term ; Petuch is the sea-barb, *Mullus barbatus*, which was called *Trigla* by the ancient Greeks.

The picturesque rocky height, not composed of nummulite limestone at this spot, but of a greyish-blue or reddish Jurassic rock, is rendered still more picturesque by the existence of innumerable ruins. Here, at all events, stood the ancient citadel which guarded the entrance to the harbour. Circular walls of great extent may still be seen, and two towers in tolerable preservation, one of which stands directly above the narrow entrance to the harbour. There is scarcely a harbour in the world more secure from storms or invasion, though it is too small ever to be of much importance.

Dubois de Montpéreux believes that he has here discovered the spot depicted by Homer in the tenth book of his *Odyssey*. In fact, if we visit the harbour of Balaklava with this work in our hands, we might almost believe that the bard saw this neighbourhood with his own eyes. The passage to which I allude is

where Ulysses lands in the country and harbour of the Læstrigonians, which Cowper renders in the following words :—

“ To that illustrious port we came, by rocks
Uninterrupted flank'd on either side
Of towering height, while prominent the shores
And bold, converging at the haven's mouth,
Leave narrow pass. We push'd our galleys in,
Then moor'd them side by side ; for never surge
There lifts its head, or great or small, but clear
We found, and motionless, the shelter'd flood.
Myself alone, staying my bark without,
Secured her well with hawsers to a rock
At the land's point ; then climb'd the rugged steep,
And spying stood, the country.”

Those who, assuming a certain air of importance, would lay aside all views not entirely coinciding with their own, and who obstinately cling to the notion that the wanderings of Ulysses took place in the Mediterranean, need only consider that the whole Trojan war, at least as it was sung by the poet, forms one of those traditions with which the pre-historical Grecian period abounds. At all events it is interesting to find a region exactly coinciding with the description given by the bard, and even picturing it still more accurately ; so that nothing more need be said upon this view of the question.

Dubois, in order to confirm his own assertion, bases it on historical grounds, by which we are informed that in very early times this spot was inhabited by a race

who were in the habit of murdering their fellow-creatures. While Father Homer depicts the Læstrigians as cannibals, according to the bard of Iphigenia, who lived at the time when the Greeks enjoyed a high civilisation, strangers who were driven to the Cimmerian peninsula were offered up in sacrifice to Diana. Inasmuch as the description given by Homer agrees with the neighbourhood of Balaklava, the residence of Orestes and Pylades on the Taurian peninsula is also applicable to the same spot. Is not the transportation of Iphigenia from Aulis to Tauris an indication that the Greeks of Homer's period had a tolerably correct knowledge of the shores of the Black Sea. A transference of the wanderings of Ulysses from the Grecian Archipelago to the Pontus Euxinus is therefore not such an absurd idea as is sometimes imagined.

One of the promontories projecting into the sea in the direction of the Heracleotic Chersonesus was no doubt the virgin promontory Parthenium. There, according to the Greek account, stood the Temple of Diana, where all strangers who were driven to this coast were sacrificed to the goddess by the chief-priest Theos. According to Dubois and others, the spot where Iphigenia once exercised her sway is now occupied by a convent dedicated to St. George, whose monks spend a portion of the summer season on the vessels of the Russian fleet.

Our visit to this romantic and interesting spot had nearly consumed the whole of the afternoon. We waited until sunset, and then drove by splendid moonlight to the next station, Baidar, two-and-twenty versts (fifteen English miles) distant. I have already mentioned how much I enjoy moonlight expeditions. Although we were desirous of keeping near the coast, and a single serrated crest alone separated us from the actual sea-shore, yet the precipitous and grotesque rocks, which seem to rise out of the waters, render a path along the coast impossible, and we were compelled to turn once more to the northern side of the range, and, for this purpose, to ascend the mountain ridge. We preferred clambering up the steep mountain upon foot, rather than in the carriage, that we might have a more undisturbed enjoyment of the glorious prospect. The moon rose higher, causing the shadows gradually to retreat from the hollow beneath our feet, and the moonlight on the ruins and picturesque rocks contrasted strangely with the darkness in which the hollow had at first been plunged. There was ample room for the imagination to conjure up images from the depths beneath. Seating ourselves on a stone, we waited with patience till the moon had risen sufficiently high to illuminate the surface of the water, where its image was reflected on the lightly rocking waves, and it was indeed with an effort that we yielded to the exhorta-

tions of our postilion once more to enter the carriage.

This conveyed us rapidly to the summit of the ridge, and a very different species of hollow again unfolded before our sight. The valley, which has received its name from the large village of Baidar, situated within its precincts, is of considerable extent, and solely inhabited by Tartars. A stream here enters the Bouiouk Ouzine, which flows farther westward, and, as I before mentioned, is the origin of the harbour of Sevastopol. The valley is tolerably well peopled with Tartars, who enjoy a degree of comfort and prosperity such as we do not encounter among their fellow believers in the plain. The hollow of Baidar is not of great depth, but has more the form of a basin; and the heights by which it is surrounded do not present picturesque groups of rock, but are more or less rounded off. A most beautiful leafy wood extends in all directions, chiefly composed of oak, forming a tall copsewood, but none of them of sufficient size to entitle them to the appellation of forest-trees. The bottom of the valley is also covered with green foliage, and the houses of the Tartars are situated in the midst of the lovely verdure of the gardens. The fruit-trees here cultivated are inferior to those between Sevastopol and Baktchi Sarai. I did not perceive such an extent of field and meadow land as is mentioned by some travellers,

especially by Kohl; but it was pleasant to feel that I had turned my back upon the dreary Pampas.

On the 25th of September we halted for the night at Baidar, where we had wretched accommodation, and waited impatiently for sunrise to be once more on the road. Only a few years ago the journey from this point to the coast was attended with all kinds of difficulties, and even dangers. Any one subject to giddiness preferred taking a much longer route to the southern coast by Simferopol. The journey could then be only made on foot or on horseback, and especially the latter half of the road was so bad that the traveller either entirely resigned himself to his horse, or, dismounting, was obliged to try the skill of his own feet. Prince Woronzoff made repeated representations to St. Petersburg in order to obtain supplies of money for the construction of a road from this spot to the coast, and thence to Theodosia, but he always met with a refusal. Just then a sum of money was discovered at Simferopol, which had been deposited some time previous, and had been totally and entirely forgotten. The Prince was informed of this, and thought it could be applied to no better purpose than in constructing a road along the coast, 150 English miles in extent.

A young engineer officer, Major Frömbder, was commissioned to execute the task; and thus, a few

years after, one of those fervent wishes entertained in the Crimea, as elsewhere, was fulfilled. The road is completed, and does all honour to the officer. Unfortunately it is rather narrow, and is not paved even in the centre; but they were obliged to cut their coat according to their cloth; in other words, it was impossible to do more than what the ready money permitted. It does not aspire to any magnificence, but its object is attained; and, as heavily-loaded waggons do not travel along the southern coast, and there are generally not so many carriages as with us, with a little care the road may be always kept in good order.

We had soon reached the crest of the mountain at its highest point, when the most magnificent prospect suddenly unfolded before our eyes. The impression was so overwhelming and astounding that my pulses ceased to beat, and the blood within my veins seemed to flow less rapidly. Here we stood upon the lofty ridge of the coast-range, 3000 feet high, and before us lay the intensely blue sea, over which I yearned towards my beloved home, at that moment perhaps surrounded by an equally blue sky. Two vessels, resembling swans in form and size, were sailing in the distance over the quiet waters; in front of me the rocks, descending perpendicularly 2000 feet, rested on a sloping bank overgrown with thicket, though pinnacles of rock also rose in all directions; here and

there a dwarf oak, or, on some bold projection, one of those pines named Taurian after its native land. Our eyes roved hither and thither, searching vainly for a resting-point, from which they might gather renewed strength; but all was beautiful and grand, though comprising such variety of landscape. Hitherto except what immediately surrounded us was still in deep shadow, but suddenly the sun rose above the heights, and, in the twinkling of an eye, its golden beams spread over the dark blue sea, and seemed to live upon the lightly agitated surface of the waters, at the same time causing the verdure on the sea-shore to become gradually more brilliant.

Allowing our carriage, with its three horses, to proceed rapidly to the station, we slowly descended by a zigzag mountain path, in order that we might enjoy the impression of the scene around us with greater freedom. On closer observation I remarked a great similarity between this and the southern coast of the Black Sea, especially that part of the coast to the east of Trebizond, the notorious Lazistan. The vegetation there, however, was more luxuriant; and, as the mountain range is a third higher than on this point, the scenery is on a grander scale. Here, on the other hand, the picturesque rocks come more prominently forward, and the declivity at the base of the precipice is only concealed by shrubs, which elsewhere appear

only at intervals in the clefts and among the crumbling rocks. On that account the Crimean coast-range is more striking and grotesque, and even wilder, than the Pontian range. The rugged character of the landscape is somewhat softened, though not extinguished, by signs of cultivation which here has taken root for several years past, and this very circumstance gives a peculiar feature to all the mountain scenery in these parts.

We at length reached the base of the precipice, where the new road passes in an easterly direction across the declivity to which I have already more than once alluded. I found the vegetation here even scantier than what it had appeared when looking down on it from above. The shrubs had more the appearance of bushes, and had superabundant space to spread their lower branches. The principal growth was oak, the downy-leaved species, and the common Oak (*Quercus pubescens*, Willd., and *pedunculata*, Willd.); the Dogwood (*Cornus mascula*, L.); our common and oriental Hornbeam (*Carpinus betulus*, L., and *orientalis*, Lam.); the Bullace-tree (*Prunus insititia*, L.); the Sloe (*Prunus spinosa*, L.); several kinds of Hawthorn (*Crataegus melanocarpa*, Bieb., *oxyacantha*, L., and *monogyna*, Jacq.); the evergreen Thorn (*Crataegus pyracantha*, Pers.); the Juniper, with light brownish red tapering berries (*Juniperus rufes-*

cens, Link.); and a few others. I observed few annuals or perennials, the season was indeed too late for them; but what I did see was sufficient to show me that there was a great predominance of the Grasses, Labiatae, Cruciferae, and Thistles (*Cynarocephalæ*). I found some Wood-Mint (*Mentha sylvestris*), Summer Savory (*Satureja hortensis*, L.), and Rue (*Kentrophyllum lanatum*, Dec., *β taurium*, Bieb.), still in blossom.

About noon we arrived at the Tartar village of Kirkineis, where our carriage and horses had already long enjoyed repose; and we, being also tired, indulged in an hour's short rest. It is principally due to Prince Woronzoff that travelling, as well as many other good things, is rendered so convenient on the southern coast. He has caused excellent post-houses to be erected in all directions, and keeps a strict guard that the carriages and horses should be also maintained in good condition. One thing only requires alteration, which would benefit travellers of moderate means, especially literary men who have not full purses, namely, the expense of board and lodging, which ought to be reduced, not only in the tariff, but in reality. For the same sum that we have here expended on these articles, we might have been lodged in the first hotels of Vienna, Berlin, or Dresden. We were each of us obliged to pay half a silver rouble (above 1s. 7d.) for a couple of eggs whipped in butter.

The same sum was demanded in Baidar, merely for permission to spend the night upon a wooden bench. A cup, or rather a glass, of tea or coffee, cost everywhere between twenty-five and thirty, or even as much as forty kopeks (from 9½d. to 1s. 3d.).

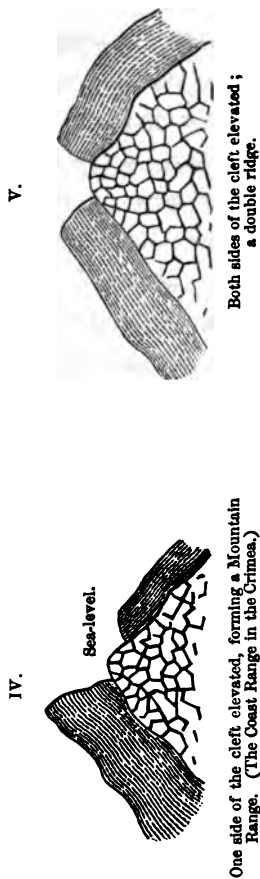
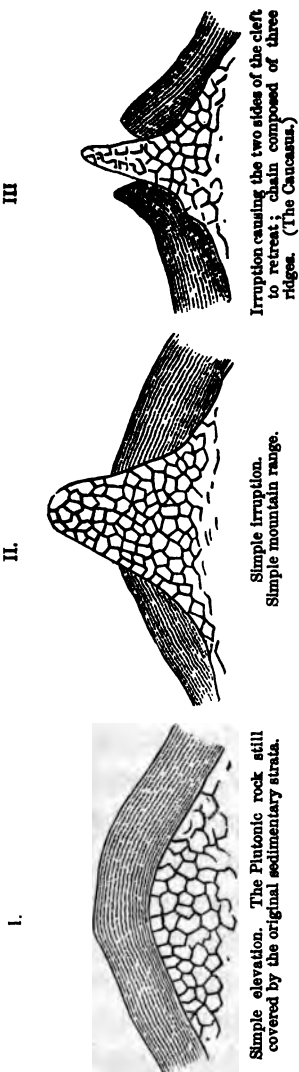
Kirkineis is situated in a romantic spot, not far from the foot of the rocky precipice, and in the midst of beautiful orchards. I particularly admired the lovely walnut-trees, which here replace the plane-trees of the East. The houses are very different from those in Baktchi Sarai, and are built against the side of the mountain in the same manner as in Grusia. They also resemble these last in having flat roofs, on which the family generally spend the evening, either in merriment and laughter, or silently listening to some tale. They are besides built, as in Grusia, with stones laid one upon the other, without mortar.

Before I continue the description of my journey, it would be as well for me to make a few preliminary observations on the Crimean mountain-range, which will render my further account more comprehensible, and especially because it has a very peculiar structure, perfectly distinct from the Caucasian and other mountain-ranges. Although several elevations of the ground may have occurred in very early times, the last and greatest movement no doubt happened even after a considerable amount of the

tertiary formation had been deposited. The ground burst open for the space of about 100 English miles, and a rock formed within the bowels of the earth penetrated through the chasm. The central line of pressure appears, however, to have gradually removed slightly towards the north, so that finally one side of the cleft, no longer sustained by subterranean pressure, once more sank beneath the waves of the sea, and is now constantly covered by them. The pressure on the opposite side, however, became so much the more intense, and its margin rose to a higher level than before. Had the subterranean force possessed even greater power than was in fact the case, a portion of the margin must have infallibly been torn away. We should then have witnessed an interesting spectacle, namely, an aqueous formation, entirely disconnected with the other sedimentary strata, resting on Plutonic, or even volcanic rock. Something similar to this must have occurred in the Caucasus, for the mountain-hollows there are chiefly composed of clay-slate, the oldest sedimentary deposit, and this is entirely surrounded by trachyte.

In the present instance the pressure diminished before the separation could take place, on which account we only see Plutonic, and a small portion of volcanic rock, at the base of the precipice on the north side of the chasm; this, in the case of regular eleva-

tions, and gradual appearance of the hypogene rock upon the surface, would have formed the backbone of the range ; but in the present instance, from the early relaxation of pressure, it necessarily forms a parallel chasm between the two elevated margins. The sloping declivity upon which the road is constructed, and upon which, or contiguous to which, the country-houses and villas of the Russian nobility are situated, is the actual backbone of the mountain, and this is composed of hypogene, and not of sedimentary rocks. Fluid masses do not seem to have penetrated to any amount ; even the basalts, which appeared upon the surface in a basin-shaped form, only occur in masses of small dimensions, sometimes in the form of conical rocks, which are entirely surrounded by the sea. The crystalline mixed igneous rock, which, on account of having been elevated from the interior of the earth, is also designated Plutonic, has been much altered in structure by subterranean heat. It is rarely found pure, in the form of genuine granite. I did not either observe any genuine streams of lava. I do not doubt, however, that both of these exist upon the surface. There is a great deal of serpentine and amygdaloid. The rock which spreads over a large portion of the above-mentioned declivity, formed beneath the crust of the earth, yet more or less altered during its passage to the surface, is greenstone (diorite), with greyish



green streaks, and frequently bearing a strong resemblance to serpentine. It forms a connected mass, but also is strewn about the ground in enormous blocks.

In order to make the above intelligible to the general reader, I have attempted an ideal representation of different modes of elevation and eruption usually occurring on the globe. The straight lines indicate sedimentary deposits, while the reticulated strokes represent rocks formed in the interior of the earth, either Plutonic or volcanic. No. IV. is applicable to the coast-range, where the right-hand side of the chasm has again sunk beneath the surface of the sea.

If we once more glance at the rocks which appear on this coast, we shall perceive that the declivity, which in fact represents the backbone of the mountain-range, is chiefly composed of greenstone and similar porphyritic rocks, at least towards the centre of the great cleft passing from west to east, and this, in some spots, is substituted by black basalts. However, where the hypogene rock has not protruded, consequently at both the eastern and western extremities of the great chasm, as well as in a few other spots, this rock is still covered by the greyish black clay-slate, also appearing at the bottom of the steep rocky precipice. The latter mainly consists of a greyish yellow Jurassic limestone, the same rock which, with few exceptions, forms the ridge of the summit of the cliff, and which extends for

a longer or shorter distance northwards, across the gentle inclination of the northern declivity.

It must be of course understood that this is but a very imperfect sketch, and is only applicable in a general sense; for at particular points, where the pressure was greatest, there are rents in the margin, thereby permitting hypogene rock to appear on the surface. This especially occurs farther east, and to a slight degree also nearly in the centre of the long cleft, where the highest mountain of the coast-range, the Tchadir Dagħ (Tent Mountain) rises to an elevation of 4700 feet.

It may perhaps be objected, that, if this chasm was formed during the tertiary period, the serrated edge of the northern border of the chasm (the present coast-range) would also be covered with tertiary deposits. This in fact occurs in several places; for instance, where the nummulite limestone, which most geologists refer to the tertiary period, appears near the extreme margin of the precipice: for example, on the above-mentioned Tchadir Dagħ. If, however, this is only an exception to the rule, we must consider that, even previous to the great elevation, and during the secondary period of the Jurassic formation, the line in which the mountain-range was to be formed at a later period may have arisen, and by that means have been elevated above the surface of the sea.

We are confirmed in our notion that the Crimean coast-range forms the northern side of the great chasm, by the interesting fact of its gentle inclination towards the north ; for while the southern side, measured from the serrated edge, is less than, or scarcely above, an English mile across, on the northern side it embraces a great many miles in extent. Besides, neither the Jurassic limestone, nor the older and newer tertiary formations, appear to be rent upon the northern side, but lie very nearly level, with but a very slight dip. This again is one of the reasons why the northern slope has so few springs of water, and that the ground in consequence is more or less sterile. It is only the uppermost portion of the range, which, owing to its elevation, is frequently surrounded by clouds, that exhibits a higher vegetation, though never displaying the luxuriance which may for instance be found on the elevated portions of the Swiss Jura Alps. The Tartar wanders to these level heights, during the hottest summer months, with his numerous flocks, and therefore calls them by the name of Yaila. This term, both in Asia Minor and other parts of the Turkish dominions, is employed to designate rich meadow-lands in the mountainous regions, whither the inhabitants repair with their flocks during the height of summer. Prince von Demidoff, and other travellers, are therefore mistaken when they designate the whole of the Crimean coast-range by the term Yaila.

The remainder and larger portion of the northern declivity, during the hot months, has but a very scanty vegetation, which I have several times had occasion to mention in more detail. It is also very sparing in the spring of the year. This whole tract of land on the northern side of the range, about ten English miles broad, passing gradually into the actual steppe, may justly be compared to the American pampas. The deficiency of water on the northern declivity may be also accounted for by the absence of fissures. No abundant springs from rain, in any of its forms, could possibly exist under these circumstances. All moisture of the ground is dependent, as we are aware, on the supply from the clouds. The more porous the ground, and the greater number of chasms at different elevations in the mountain, so much the better will it be supplied with springs, which regulate the amount of water in a district. If, however, the narrow strip of southern declivity also fails in springs of water, no doubt the cause of this may be traced to the water which collects in the clefts of rock not appearing above ground till within the limits of the sea.

CHAPTER VII.

ALOUPKA—MAGARATCH—NIKITA.

Simeis — Aloupka — Prince Woronzoff — Barren neighbourhood — The gardener — Kehbach — The grounds — A Plutonic irruption — Foreign shrubs — Deficiency of grass-plots — The castle — A rapid postilion — Fine view — Orianda — Gaspra — Livadia — Yalta — Magaratch — Prince Galitzin — The Princess and her artistic taste — Massandra — Nikita — Mr. von Hartwiss — Cultivation of the vine and fruit-trees — Crimean wine — Foreign trees — The cork-tree — Major Frömbder — A storm.

AFTER this unavoidable digression I return to the description of my journey. Having partaken of a frugal breakfast in Kirchineis, we proceeded on our route, and soon after reached Aloupka, the celebrated castle of Prince Woronzoff. The road leading to it is on the top of the declivity which I have so repeatedly mentioned, while villas and castles are either situated close to the sea-shore, or on projections in the midst of the bright verdure of copsewood. I now regret that I did not perform this journey on foot, for I should have then selected the path by the sea-shore. Our plan was to go direct to Yalta, the principal place upon the coast, and thence to make excursions in all directions. This part of our scheme we fulfilled to our perfect satisfaction,

and we saw other attractive points, but never returned to the spot we now were passing. I should have particularly liked to visit Simeis, the residence of one of the most accomplished ladies in Russia, Natalia Fedorovna Narishkin. While in Odessa, in the year 1838, I formed the acquaintance of this very amiable lady, and I am persuaded that she now would have directed my attention to objects which have escaped my notice, especially as she has taken great pleasure in the study of the Crimean flora, and has consequently been in frequent communication with M. von Steven. But I was now obliged to be satisfied with viewing Simeis at a distance. We also observed a second estate upon the sea-shore, called Mtchetka, offering a no less charming aspect.

I had heard so much about Aloupka, the Alhambra of Prince Woronzoff in the Crimea, that I was delighted to be able personally to solve the contradictions of various travellers. One writes full of delight of what he has seen; another is thoroughly disappointed. That which seems magnificent and attractive to the former is rough and clumsy to the latter. The one only sees grey rock, while the other beholds the most enchanting picture. Whenever our judgment is called in question, it is absolutely necessary that we should not regard our own taste as the quintessence of everything æsthetic; but, above all things, we should

take every condition of the case under consideration, and as far as possible endeavour to regard it from the same point of view as he whose work we are about to criticise. Although I do not agree to what is now and then said, that there are a hundred other places on the southern coast which are to be preferred to Aloupka, I will not deny that Orianda and Livadia, about which I shall presently speak more at length, are in a more beautiful and agreeable situation. Should any one prefer picturesque and fantastic scenery, this may indubitably be seen at Prince Woronzoff's; for there is certainly not a single point in the whole peninsula which could better respond to this demand. The artistic effects are also unrivalled; though, for my own part, I must acknowledge that I should have preferred a different style of arrangement, and especially greater repose for the eye; but even when schemes have been accomplished with most success, we frequently desire too late what is no longer capable of being executed with facility. Such, probably, is the case with Aloupka.

The nearer I approached the Prince's estate, the ground became still more precipitous, and masses of loose stones, scattered in all directions, formed an obstacle even to the scantiest vegetation. The pleasant verdure, and rocks overgrown with plants, which feasted my eyes in the neighbourhood, and even some

distance beyond Kirkineis, gradually disappeared in the vicinity of Aloupka. Everything seemed dead; naked rocks rose before us in all directions, or fragments of stone lay strewed about, without a vestige of green herbs or grasses. There was even but a scanty supply of the orange, or greyish-green *Parmelias* and *Lecidias*; those saucer-shaped lichens, which so rapidly cover rocks at home, and which are the first signs of the commencement of decay on the surface of a stone. Here and there might be seen the Dog-wood and Sloe, the shrubs of Oak and Beech, or, within the clefts or upon the declivity, the Juniper we have before mentioned. Inanimate nature, however, was on a grand scale. The frequent appearance of shattered rock, masses hurled one above the other; walls of rock, several hundred feet high, perpendicularly erect; and precipices of clay-slate, bespoke the effect of subterranean forces of even greater power than occurs at other points on the southern coast. Even the elevated margin of the cleft here rose still more abruptly than elsewhere, to the height of 3700 feet. There was not sufficient space for a single shrub or tree to grow on the whole precipice of Jura rock; only far up, where there are cracks in the escarpment, 2500 feet higher than Aloupka, a few trees, and especially the Taurian pine, find a little, though but insufficient subsistence, between the pinnacles of rock and denticular projections.

Here, where in pre-Adamite times the workshop of Vulcan was most active, and where nature has assumed her roughest garb, Prince Woronzoff resolved to execute his magnificent designs. The wild confusion of the rocks pleased him; he delighted in the terrific aspect of the precipices, and was not deterred by the scanty clothing of the scattered shrubs, as this very circumstance presented a wider field for the display of his artistic skill. What would have been obstacles to others, under his guidance were converted into their present form; and by the aid of his skilful gardener, Kehbach, he has most ably succeeded in infusing life into what was before inanimate. Artistic skill has exercised sway on this spot for five-and-twenty years, and one natural beauty after the other has been drawn out. It is scarcely possible to trust our senses, for all beyond is a barren, black, or dull grey soil, but within the limits of his territory the most luxuriant vegetation of the south of Europe, the East, and even of America, have contributed their share.

The contrast, when emerging from the rigid but magnificent natural features of the scenery, to within the limits of the beautiful park of the Prince, endowed with every charm, is, in fact, perfectly astounding; there is scarcely time for the eye to embrace all the marvellous variety in the now wonderfully lovely, and now fantastic groups of rocks, and in the vegetable

world. Every twenty paces something new is presented to the sight, bearing no comparison to what has preceded it. If I were to criticise, I should say that there are not only too many beautiful objects for so limited a space, but that these last are also on too large a scale. There is no transition from one object to the other. The eye is incessantly occupied ; there is not a single point for it to rest upon and seek refreshment for ever so short a time. The impressions are strong, and yet follow each other in such rapid succession, that I should have preferred if all which I beheld had been spread over a space more than three times as large. Even the body requires repose—arbours, niches, grottoes, &c., where one may take refuge.

There is a rich field for the painter's brush, as well as for his sense of beauty, and yet he would find it difficult to draw the line for a picture ; there would be too much even in the allotted space. But many a study might be entered into the artist's sketchbook, of which he might afterwards make use.

Dubois de Montpéreux gives a detailed account of this spot, where, previous to the creation of man, such devastations had occurred within the crust of the earth. He is, however, mistaken in calling it a crater, for no fluid rock ever protruded here from the depths of the earth for any protracted space of time. The ground seems to have suddenly burst open after the northern

escarpment had already risen to a considerable height. Old Father Vulcan in his rage shook a pillar, and cracked the vaulted ceiling of his workshop. The clay-slate in some places rose up perpendicularly, and the greenstone and ophitic granite, as this traveller names these subterranean rocks, were shattered into fragments; that is to say, ejected in masses from three to five, or from twelve to sixteen feet in diameter. A portion of these confused masses of rock rolled down the slanting declivity, and some reached the sea; masses of greenstone lie strewn in all directions like erratic blocks or moraines, though very different in kind; and afterwards, or simultaneously with the irruption, fragments of the erect Jurassic rock broke away, thus also covering the surface with their ruins.

The wildest spots have been tamed by the hand of art. Rock-plants are arranged with care in artificial clefts, while the fresh verdure of others is conspicuous in the midst of the ruins of nature. Ivy, Wintergreen, and Coltsfoot are the plants most abundant here. In other spots the scattered fragments of rock have been towered one upon the other, so as to form a sort of natural grotto, and at the same time to protect an artificial hollow, which is converted into a small pond, the moist abode of turtles. Our northern bulrushes here stand beside the Ethiopian Calocasias (*Richardia Africana*, Kth., *Calla Æthiopica*, L.); and the dark

brown inflorescence of the first form a decided contrast with the dazzling white spathes of the last, especially as the leaves of both these plants are extremely different in form. The reed-like and pendulous branches of the beautiful weeping-willow dip into the water.

Although the climate here differs but little from that of South Germany, and the cold in winter not unfrequently amounts to 12° , and even more, yet a large number of plants, especially shrubs, flourish on the south coast of the Crimea which do not grow in Germany. For instance, we are almost entirely deficient in the evergreen shrubs, which are peculiarly advantageous for landscape gardening; and thick hedges, like those of our Hawthorn and Blackthorn, are here composed of the evergreen *Rhamnus alaternus*, L., and the *Phillyreas*, whose shining bright green leaves give animation to the shrubs. Beside these grew the noble Bay-tree, with its dark sombre foliage; and the melancholy Cypress, the emblem of death in the Mahomedan cemeteries, towered up above these last.

Mr. Khebach was so kind as to be our guide, and pointed out many things which, from our limited space of time, would otherwise have escaped our notice. We were, for instance, shown the two largest Cypress-trees, which are said to have been planted by Prince

Potyomkin (Potemkin), the favourite of Catherine the Great, during the visit of his royal mistress to the Crimea in 1787. It is a curious fact that every Cypress now existing in the Crimea has sprung from these two trees.

It would be fruitless to seek in the artificial groves of Germany for the variety of foliage in the trees and shrubs which here meets the eye. There is not much variety in the form of the leaf in our woods, where there is a predominance of the elongated leaf ; as *e. g.* the Beech-tree, our Fruit-trees, Poplars, and, most narrow of all, the Willow ; the larger, rounder, and more palmate leaves of the Lime, and different kinds of Maple, are less frequent ; there is a still greater deficiency of pinnate leaves, at least among the older plantations. Almost the only trees to be there seen are the Walnut, different kinds of Sumach, Acacias, and the black Elder ; and even these are not planted to the best advantage. It was not till very recently that much variety in this respect was produced. The merit of having distributed these different species through the royal national nursery for trees is due to Lenné, the master of landscape gardening, and director of the royal gardens in Sans Souci.

I will here take an opportunity of giving a slight sketch of the groups of trees growing in the beautiful park at Aloupka. Here stood a fig-tree, with its large

leaves and spreading brownish-red branches, or a paper mulberry, and towering over these the European Lotus-berry (*Diospyros lotus*, L.), or the Pistachio-nut; the background formed by the *Quercus robur*, the pointed-leaf Ash, and Celtis; while the European Judas-tree (*Cercis siliquastrum*, L.), the Silver-tree (*Elæagnus hortensis*, Bieb.), both kinds of Arbor Vitæ (*Thuja orientalis* and *occidentalis*, L.), and the shrubby Jasmine, stood in the foreground. In the upper regions were to be seen the Walnut, the oriental and occidental Plane-tree, the Tulip-tree, the large-blossomed as well as the pointed-leaf Magnolia, the Mulberry-tree, with its red and white berries, &c. Besides these we saw the slender-leaved eastern Acacia (*Acacia julibrissin*, Willd.), the only species of the kind growing as far north on the old continent as the 44th degree of latitude; there was also the Weeping-Ash, with its yellow pendulous branches only slightly concealed by foliage.

One bower seemed to me quite unique of its kind. A succession of climbing roses literally did their best to adorn the garden in the most exquisite manner, by a constant repetition of blossom throughout the year, except when Boreas checked vegetation altogether. In May, the season when there is the greatest profusion of blossom, the bower must indeed be perfectly enchanting. The tree, and Banksian roses, which can-

not stand our winter, are able to resist the frost on the southern coast of the Crimea, if only slightly protected.

There were unfortunately too few grass-plots, and those existing were of too small dimensions to be suitable to the grand scale of the objects around. They were besides planted with groups of Trumpet-trees (*Catalpa syringæfolia*, Sims.), the Japan Quince, Lagerstroemias, Mahonias, Hydrangeas, &c., and occasionally bordered by Laurustinus (*Viburnum tinea*, L.), Rosemary, Oleander, the rush-like Spanish Broom (*Spartium junceum*, L.), and the shrubby Hare's-ear (*Bupleurum fruticosum*, L.)

If the space admitted but few plots of grass, I still more felt the absence of summer-houses, or a pavilion, or even an arbour. Everything latterly has been expended in the decoration of the castle. There are also, in the way of buildings, a very beautiful mosque, with a tower, a sort of temple-church, surrounded by Ionic columns, the former castle, the gardener's house, and an inn.

Unfortunately Prince Woronzoff too rarely makes this his residence, or I am persuaded, for the sake of enlarging his hitherto limited grounds, he would extend them to the base of the precipitous cliff, and at any rate include a portion of this last within the bounds of the work he has created. Here would be a field worthy of

Lenne's capacity. He would well understand how to give animation to the precipice, and to produce a more smiling aspect beside the present fantastic forms.

I now turn to the description of the castle—this Alhambra of the Crimea. It is said that the designs and plans, which were prepared in England, the country where the Prince was educated, and to which he is principally attached, alone cost the sum of 18,000 silver roubles. We need not therefore be surprised that in 1844, when I visited the Crimea, and when much still remained incomplete, the expenditure amounted to about 150,000*l*.

The new castle is erected on a piece of ground which has been levelled, but is unfortunately too small for a building of such magnitude; it is situated about 160 feet above the level of the sea, and consists of one principal building and two wings. The architecture is in the Gotho-Moorish style; the material employed has chiefly been the same greenstone which I have several times mentioned, and which very conveniently lies scattered around in blocks of enormous size. In addition to this, however, a greyish-green and fine-grained sandstone has been principally employed for the foundations; this is found in the neighbourhood of Nikita, to which I shall presently allude. It does not seem to me that a happy selection has been made of the first-

named stone, for although greenstone, from its extreme hardness, may resist the ravages of thousands of years, yet the undecided colour of the rock is by no means favourable to the aspect of the building. It is to be regretted that there is not a single point on the dry land calculated to afford a good prospect or even a general view of the whole castle, though both are easily attainable at sea, but only at a certain distance from shore. The greyish-green, I might almost say uncertain, colour of the rock, renders it, however, impossible to distinguish precisely the outline of the magnificent building. All the pointed summits, towers, and other decorations are at that distance indistinctly visible to the eye, and melt more or less confusedly into the prospect.

I regretted that during my visit much work was being done in the interior of the castle, which prevented my obtaining an impression of the whole, as I should otherwise have done. Most of the apartments are spacious, and comfortably furnished, without reference to expense. They so far differ from the Gothic style by the absence of small apartments and unoccupied spaces, all which I regard as an advantage. The staircase, however, adheres too strictly to this rule, for it is so narrow that a gentleman could with difficulty mount it with a lady on his arm, were either the one or the other the least beyond the ordinary degree of

stoutness. The staircase leading to the terrace is even narrower than this, for here even a single moderate-sized person can hardly wind his way up to the top.

The principal building in front consists of the magnificent dining-hall, which, by the removal of the windows, is convertible into an open saloon. I was however informed that it is perfectly useless during the warm weather, for, being situated on the sunny side of the building, the apartment is always intolerably hot. Ought it not so to be arranged that currents of air constantly renewed should be contrived to pass through the upper portion of the chamber without incommoding its inmates? A cascade, or even a fountain, would also modify the heat, and, besides, embellish the apartment. But the best plan, no doubt, would be to plant a couple of plane-trees in front of the edifice. Their stems should, however, be sufficiently tall, so that the foliage might form no interruption to the distant prospect; the crown of the tree would then prevent the burning rays of the sun from shining on the dining-hall. Probably the greenstone, being a good conductor of heat, also contributes to increase the summer heat in the other apartments of the castle. By Mr. Kehbach's account the only habitable rooms in the hot months are those situated to the back of the castle, therefore facing the precipice.

The easternmost of the two wings is furnished for

the residence of the family. The apartments of the Princess are on the ground story, one of which, intended for her daily use, is furnished in Chinese style. The carpets are here made of straw. The upper rooms, except the bedroom of the Princess, belong to the Prince ; they are furnished in less splendid style, and harmonize better with the simple taste of the owner. The right wing contains a number of smaller rooms, one beside the other, which are intended for guests. The roof is a flat terrace, commanding a glorious prospect over the immediate neighbourhood and the wide blue sea. Any one desirous of a still more distant prospect need only ascend one of the two square towers which rise in front, and a balcony for the same object is attached to the central building.

The sun had just risen behind the hills when, on the 26th of September, we were again seated on our post carriage, on the road to Yalta. If our three horses had driven too slowly over the dreary pampas on the plain, they now went far too rapidly. It was in vain that we called "potische" (not so fast) to our postilion, the bearded coachman protested that he must reach Yalta in proper time, and naïvely added that other travellers had always complained of his slow driving. A small gratuity, however, did more for our cause than all our arguments ; but he still continued to drive too fast, so we comforted ourselves with the pros-

pect of afterwards enjoying the scenery around with greater leisure.

Aloupka is situated in a bay, bounded on the west by a promontory called Merdwen. Towards the east the declivity projects far into the sea, and a lighthouse is built upon the promontory; while, still farther east, the sea forms a second and larger bay, and Yalta, the capital of the southern coast, is situated nearly in its centre. Crossing the ridge of the declivity which separates the bay of Aloupka from that of Yalta, we suddenly find the character of the scenery, no less than its vegetation, entirely changed. The precipice, not quite so perpendicular as before, retreats farther from the sea, with occasional breaks, on the margin of which are a few scattered trees. The declivity is equally altered; it does not descend in an arch to the sea, but is also broken; these interruptions, however, are only confined to limited spots, and, precipitous in front, slope gradually away on either side.

The trees in some places grow luxuriantly along the sea-shore, and for a mile and a half inland, to the foot of the great rock precipice. The cheerful verdure and various tints of the leafy wood beside the blue-green sea, over which the peace of heaven seemed to rest, and the arched blue sky above, presented a most lovely picture. On the other side the sombre dull green of the Taurian pine, with its horizontal branches, growing

on the lofty precipice, is calculated to inspire gloomy reflections.

The first beautiful grounds we reached were Little Orianda. It seemed here, indeed, as if man had nothing more to do than to build himself a dwelling. The estate belonged to General Leon Narishkin, a descendant of the mother of the celebrated Natalia Narishkin, who, on account of her dazzling beauty, no less than from her remarkable intellect, was selected by Peter the Great for his second wife.* When the Archduchess Helena Paulowna visited this spot, and was delighted with all she saw, the gallant Russian placed the whole estate at the disposal of the sister-in-law of his sublime Emperor to the end of her life.

A smaller estate, but no less beautiful, is situated close to the sea, near the promontory on which the lighthouse is erected. It is called Gaspri, and belongs to a Prince Galitzin, who formerly was postmaster-general, but was compelled to resign his post on account of having to undergo an operation in his eye. He was here at the period of my visit, for the sake of the southern climate.

We soon reached Great Orianda, the splendid property of the Emperor. Unfortunately the road here passes across thicket, and a small frightful wall

* This is a mistake: Natalia Narishkin was the wife of Alexis Michaelowitz, and *mother* of Peter the Great.—Tr.

excludes all view into the beautiful grounds. At length we arrived at Livadia, unquestionably the loveliest spot on the whole of the southern coast. It belongs to Count Pototzky, the Russian ambassador in Naples. The wall was substituted by a simple balustrade, which enabled us to enjoy some prospect of the charming grounds from the outside. The road led direct from this to Yalta.

Yalta and Aloushta, still farther to the east, are the only places on the southern coast where there is a deposit of alluvium, and it is possible to walk upon perfectly level ground for several hundred feet together. The coast-range not only retires farther than hitherto from the sea, but has also a deep fissure, which divides the hitherto uninterrupted margin. A fresh living stream issues from the chasm, collecting water from the innumerable brooks around ; it tumbles with noisy turbulence over rock and stones, and, during the melting of the snow, transports a multitude of rolled pebbles along with it to the sea. It is scarcely credible, but is yet true, that the small alluvial plain which has accumulated near the sea-shore, towards the centre of the great bay, during the course of many thousand years, has been formed by the Yalta stream, though scarcely three miles long. Two or three thousand years, at farthest, will certainly increase the present size of this plain.

This small level spot upon the coast has been em-

ployed to lay out a town, which was intended to form a sort of medium between the separate houses and estates of the neighbourhood. Yalta is called a town, but it scarcely comprises forty houses, and only forms one street. The shopkeepers here resident scarcely deserve the appellation, as they only supply the barest necessities of life, and are not in a condition to satisfy even the most modest desires beyond this point. The families resident on the southern coast are generally obliged to obtain what they want from Simferopol, and therefore require to provide themselves with necessary stores for a considerable time. Everything that is possible has been done by the Russian government, on the one hand to facilitate the means of communication for the inhabitants of the southern coast, especially with Odessa, and on the other, to raise the condition of Yalta, but in vain. A vessel from Kertch stops here on its way to Odessa, as well as on its return every fortnight. The government has also caused a break-water to be constructed for the protection of vessels, although it is but rarely that they seek shelter here. If the cause of this is asked, the answer is not difficult. The southern coast is only a very narrow strip of land, partly occupied by Tartar villages, partly by the estates of Russian noblemen. Most of it, besides, is so sterile as to render all cultivation impossible. The greater number of Tartars here resident are indeed in a pros-

perous condition, but their wants are such as they can themselves supply. On the other hand, they cultivate scarcely more than what they require for their own consumption, and only sell sheep and fruit. The Russian families, not more than twelve or sixteen in number, resident here from May to September, are too few to exercise any considerable influence on commerce or trade. Except fresh meat, eggs, milk, butter, and vegetables, they bring everything they require along with them; even the above provisions are partly obtained from their own estates, and partly from the Tartars. The overseers and stewards, who live here during the whole year, have without exception their own farms, and accordingly supply most of their wants themselves.

Yalta is in a delightful situation. The small number of houses in front, with the precipice, rising to the height of 4000 feet, encircling them in the background like an amphitheatre, and the declivity between, covered with the greatest variety of green foliage, which rises some distance up the ravine before specified, summer-houses here and there visible,—all this presents a most lovely picture, though embracing too many objects for the artist. Westward lies beautiful Livadia, while steep rocks towards the east nearly descend to the sea-shore, and there form a boundary to the harbour.

The same afternoon we made a short excursion to

Magaratch, the estate of Prince F. B. Golizin (pronounced Galitzin), situated immediately beyond a rocky projection. At Yalta the mountain-range so far differed in formation from what it hitherto had been, by the more frequent appearance of the clay-slate, without the protrusion of Plutonic rocks. The former, however, does not occupy the whole of the declivity, but is substituted by a very fine greyish green or reddish sandstone. The precipice itself consists, as before, of the same Jura limestone which I have several times mentioned.

Magaratch is the name of a Tartar village which once existed here, but has long since disappeared. This unequally sterile district gradually passed into other hands, and several estates were formed, of which the first in order is that of Prince F. B. Galitzin. In the year 1838 I met with the kindest reception at his house in Odessa, where I lived through that terrible, though short period, when all the inhabitants of the town were in fear and trembling from the effects of plague or earthquakes.

I much regretted the absence of the Prince's stepson, Prince Constantine Suworoff, who had been for several weeks past in St. Petersburg. I owe a debt of gratitude to the excellent grandson of the celebrated Italian warrior; for on my first journey to the East he not alone received me in the kindest manner in Tiflis,

where he then resided, assisting me in word and deed, but when confined by illness to a sick bed, at the foot of the classical Mount Ararat, hovering for several days between life and death, and slowly recovering my strength, I afterwards returned to Tiflis, he again received me into his hospitable house, where I was tended in the kindest manner by himself; we afterwards travelled together to Odessa, and in the home of his parents I met with a reception such as might only have been expected by the friend of a beloved son.

Princess Galitzin devotes her time to the embellishment of the grounds, which by nature are extremely lovely. Most, if not all that we saw, was executed by her hand. This accomplished woman had a perfect knowledge how to draw out the most covert beauties of nature; and not only is she acquainted with the botanical names of all the ornamental shrubs and trees, but she also named to me the plants and weeds native to the soil. I could not have had a better guide through those delightful though not extensive grounds. The princess has been most successful in her adaptation of the various gradations in form and colour of the foliage, so as to produce a harmonious impression such as is rarely to be found. A small cypress wood was particularly beautiful. The roads were so contrived that not a single beauty in the park should escape notice, leading in easy curves from one lovely spot to the other.

Though the castle is by no means so extensive as those of Aloupka and Orianda, yet its situation offers charms which are not to be found in those magnificent edifices. Planted in the midst of cheerful verdure, like an unpretending country-house, the wide-spreading branches of the surrounding trees adorn with their shadow even a portion of the open apartments on the southern side. From this point the open sea may be surveyed, which appears to lose itself in infinitude. It so happened that, just as we were looking, several vessels were sailing on the still waters, which not a little heightened the effect of the beautiful landscape. Here I sat with my kind hosts till late at night, and, quitting them with regret, retraced my steps to Yalta.

The following morning (27th September) we had planned to devote to the gardens of Nikita, deservedly celebrated throughout Russia, as well as other countries. At dawn of day we were again seated in our little carriage, and, passing Magaratch, drove to the former place. The village of Massandra, on the road, was so concealed by the trees amidst which it stood, that the gables of the houses were alone visible at intervals. A small church, not unlike the Temple of Theseus, though without columns, is situated on an open space of ground. The view in nearly every direction is, however, even more beautiful than the church. The road afterwards passed close to the

limits of the clay-slate, and the fine-grained sandstone which I have already mentioned, to Nikita, a large beautiful village, near which the celebrated garden is situated. The small but clean and neat houses were here shaded by splendid walnut-trees, and with their terrace-like architecture presented a most pleasing appearance, both far and near.

The garden is situated lower, and descends to the sea-shore. Unfortunately the director of the imperial establishment, Mr. von Hartwiss, was from home ; this, however, did not prevent his amiable lady from receiving us in the name of her husband, and taking charge of us till he himself arrived. This was a fresh sign of Russian hospitality, which I had frequent opportunities of enjoying during both my journeys. Nikita owes its origin to the distinguished botanist Mr. von Steven, whom I have already mentioned. Above forty years ago he drew attention to the necessity of founding a general nursery for trees, to supply the extensive and almost treeless provinces of Russia, and soon afterwards he received a commission to form one in the Crimea. Mr. von Steven was the very man to overcome all manner of obstacles, which, it may easily be conceived, presented themselves in no small numbers. In a short while the garden was planned, and year by year exercised an influence, but especially on the Crimea and the southern provinces of Russia.

At the close of ten years Mr. von Steven, who had till then honourably presided over the establishment, was recalled, and a more important office was assigned him ; for though the culture of plants in the southern provinces was duly valued in St. Petersburg, the government did not consider that sufficient had been done by the foundation of the establishment at Nikita, and a man was wanted who not only would direct the attention of the inhabitants of the Crimea and Cis-Caucasus to the benefit accruing from the cultivation of the fruit-tree and of the vine, as well as from the breeding of the silkworm, but who could also assist by his advice and personal co-operation. The choice could not have fallen on a better person than Mr. von Steven. All that has since been effected in these provinces, with respect to agriculture, is mainly due to this accomplished gentleman.

A Lithuanian nobleman was appointed at Nikita in place of Mr. von Steven. Mr. von Hartwiss had gained distinction in the wars for freedom, and, possessing a great taste for horticultural pursuits, was soon at home in his new sphere of action, and assiduously studied the best German and French authorities on the cultivation of fruit and flowers. He has now presided over this establishment for seven-and-twenty years, and the reputation of the garden, not only in Russia, but in other parts of the world, is mainly due

to his instrumentality. This even deserves greater praise, as the garden has not the same amount of funds as in other institutions of the kind in Russia. Formerly the director, in addition to his salary of 5000 rouble assignats* (about 225*l.*), received a sum of 10,000 roubles to spend upon the garden. This sum has latterly been raised to one-half more, and the garden itself produces an equal amount by the sale of small plants and shoots, &c. The entire sum, therefore, which Mr. von Hartwiss has to spend upon the garden does not exceed 20,000 rouble assignats, therefore about 900*l.*

A similar institution exists in Prussia, the royal national nursery for trees, at Potsdam, under the special management of Lennè, the director-general of Sans Souci. This establishment is in such a prosperous condition, that it not only maintains itself without any contribution from the state, and therefore regularly pays a kind of rent from the occupied land, but has even been able to lay by some capital from the surplus. We do not, however, cite this as a reproach to the Nikita garden; for if we consider the difficulties occasioned by its remote position from the rest of Europe

* I have already stated that about ten years ago there were assignats in Russia, of which three and a half and a few copeks were equal to one silver rouble. These have been now drawn in, and the paper money is of the same value as the silver.

where fruit-trees and other plants are cultivated, and the deficiency of able gardeners in Russia, and when we know the expense of labourers on the southern coast, we shall regard the apparently large sum of 900*l.* as extremely moderate.

The garden of Nikita supplies nearly all Russia with improved kinds of fruit-trees and vines; but besides these it distributes a multitude of ornamental shrubs and forest-trees through all the districts of the empire. The price is fixed at so low a rate, that even those in comparatively smaller circumstances are able to procure any plant they may desire from this imperial nursery of trees. Not more than 4*s.* 6*d.* is given in the Crimea for a thousand grafts or vine-stalks; while in the other provinces of the empire double that sum is demanded. Now, as the annual amount sold in the Crimea fetches the sum of 225*l.*, and only two-thirds of this sum are the net proceeds of the grafts and shoots, we may calculate that above half a million are annually distributed in different countries, which is indeed no inconsiderable or discreditable number.

In the cultivation of the vine and fruit-tree Mr. von Hartwiss followed the sound principle "*non multa sed multum*," and on that account he frequently removed all those kinds which, on the one hand, he was convinced were inferior in quality, or, on the

other, required much attention in order to prosper. The profit and the quality in the culture of the vine or fruit-tree must, like other things, bear a relative proportion to the care bestowed upon the plant; we ought besides to remind the grower (and this equally applies to the Russian, Frenchman, or German), that he should not select those kinds which require much attention. Their culture ought always to be intrusted to one who has been trained to that particular department of horticulture, as the vine or fruit-tree grower has neither requisite knowledge, nor, with rare exceptions, has sufficient time to bestow on such kinds of plants.

The fruit of which I partook possessed more aroma than what I had eaten in Simferopol, both within and without the market. The reinette apples here are particularly fine of their kind, and several new varieties have been produced from them. Less attention has been paid to the culture of the pear-tree, and I never saw good fruit of this sort here or elsewhere in Russia. By Mr. von Hartwiss' account they do not thrive very well on this spot, and never retain the aroma and flavour which they possess in Germany. Among the innumerable plums which I saw here, there was one called the Augustan, which I thought particularly good. The apricots were all over before my visit, but are much cultivated here. The late peaches had no particular merit. The almond-trees grown here seemed excel-

lent, but are planted in too small numbers to produce any amount of profit. The vineyards, to which Mr. von Hartwiss conducted us, seemed to be regarded by him with peculiar favour. The cultivation of the vine is a favourite occupation of different families resident here, and an enormous expense to the state, no less than to private individuals. About four hundred different kinds of vine are cultivated in this spot. The whole of Europe as far as Lisbon, Madeira, South Africa, Asia from Tiflis to Shiraz, and even North America, were placed under contribution in order to supply the best among their vines for the southern coast of the Crimea. No expense has been spared to obtain a celebrated vine even from the remotest corner of the globe. But these varieties all more or less lose their peculiar merits on the Crimean soil, and retain nothing but the name. I thought that I recognised the foliage of the early Würzburger, the Rhenish Riessling, the Traminer of the Palatinate, and the favourite Bordeaux, &c., but not the grapes, and still less the wine prepared from them. Two American kinds, known in Germany by the names of Catawba and Isabella, and there chiefly cultivated for their beautiful foliage, had also remained unchanged, both in form and flavour, at least so it appeared to me, compared with ours of the same sort in Germany; but whether they differ

from those in North America is another question. In tasting the grapes I observed that in all the Crimean vines, with but few exceptions, they have a thicker and more astringent skin.

Mr. von Hartwiss gave us an opportunity of becoming better acquainted with the different kinds of wine prepared in the Crimea. I am not myself a sufficient connoisseur to pronounce judgment, but, in the opinion of those who are experienced in such matters, the profit is not in the least proportionate to what is expended. I have had occasion to speak before of the high price of the Crimean wine. In Odessa, by-the-bye, a free port, and admitting foreign wines with a very moderate duty, good Crimean Bordeaux always costs more than equally good genuine French wine of the same sort. On this account it is only ordinary and inferior kinds that are exported there, though they have also proportionately high prices; and the best wines are only drunk in families where the vine is cultivated on their own estates, or by those who place them on their table from patriotic motives.

The Crimean Rhine wine had lost its aroma with its acid, and in like manner I missed the astringent taste of the Bordeaux. On the other hand, such excellent wines were presented to me in Nikita, and still more in Magaratch, by Prince F. B. Galitzin, that they

would have met with approval from the most experienced wine-drinkers. We were, however, told that the preparation of this quality of wine demands such extreme care, that it is impossible to trade in it, for it would either be given away at enormous loss, or would have immense prices attached to it.

It is besides the universal opinion of vine-growers in the Crimea, that, although much attention is paid to the culture of the vine, yet there are few people who are able to prepare the wine with sufficient knowledge of the subject. Enormous sums have been expended in order to render the sterile ground productive ; nearly as much has been bestowed in obtaining vines from all parts of the globe, and in inducing vine-dressers to come and tend the vine ; but there is an entire absence of experienced coopers, who know how to manage the wine, both during and after the fermentation, and, though it will hardly be credited, even the proper and effective implements are wanting.

Mr. von Hartwiss, who turns his attention to horticulture in a more limited sense of the term, endeavours perseveringly, I might almost say with pertinacity, to acclimatize foreign shrubs and trees. Thus all the East India roses winter here in the open air, such as *Semperflorens*, *Noisette*, *Grevillea*, *Banksia*, *Thea*, and whatever the varieties and crosses may be called, and are only occasionally protected when there is a

severer season than usual. *Cobæa scandens*, Cav., red and blue Passion-flowers (*Clematis azurea*, Sieb., and *florida*, Thunb.), *Tecoma radicans*, Juss., and other climbing plants, wind themselves over the shrubs, or arbours, &c., with as much luxuriance as in their native land. There was a large extent of ground planted with Olive-trees, but their introduction will never answer on the northern coast of the Black Sea, as they do not even thrive on the opposite southern coast. It is no uncommon circumstance for entire trees to be destroyed by frequent and often totally unexpected frosts, which usually occur in March. The cold nights also, common in the spring, are very prejudicial to the young shoots and foliage.

A great many Cork-trees also grow here. The substance of the cork was, however, so undeveloped, that it existed in no greater quantity than upon our cork-barked Elm. I have already observed that the Cork-tree is no more an independent species than the cork-barked Elm with us. *Quercus ilex*, L., here stood in the midst of Cork-trees (*Q. suber*, L.), and did not differ from the former in the amount of cork. In other respects the cork-barked Elm of Germany is only a variety of the *Ulmus campestris*, L.; that is to say, it represents our common Elm-tree, and must be distinguished from the *U. suberosa*, Juss. (the Sicilian Elm), as well as from the one included in the Caucasian flora.

If nearly all the vineyards of the globe have contributed their share to the Crimea, landscape-gardening here has also taxed almost every country on the earth. The only parts not represented are those beneath the tropics, whose plants require that peculiar kind of climate which is suitable to Palms and Tree-Ferns. The Caucasus and North America have contributed the largest share. Among those belonging to the former we may mention *Gleditschia caspica*, Dsf., *Pterocarpus caucasicus*, C. A. Mey., *Rhododendron ponticum*, L., *Azalea pontica*, L., *Pinus nordmanniana*, Led., and *Hedera colchica*, C. Koch.; from the latter district a variety of Oaks; among others the lofty *Quercus coccinea*, Wangenh., and *palustris*, Duv., besides Magnolias, Gleditschias, the Weymouth Pine, Canadian fir, &c. Siberia has furnished her peculiar larch; the north of Europe, all her Conifers, besides other trees; Ireland, her peculiar Yew and Ivy; Spain, the beautiful *Pinus pinsepo*, Boiss.; the Balearic Isles, *Buxus balearica*, Lam.; the Canaries, *Viburnum rugosum*, Pers., and *Oreodaphne fætens*, Nees.; North Africa, *Viburnum tinus*, L.; South Africa, the Heaths and Pelargoniums, *Myrsine africana*, L.; Syria, *Hibiscus syriacus*, L., and the Cedar-trees; Persia, the *Acacia julibrissin*, Willd.; Asia Minor, *Celtis tournefortii*, Lam.; the Himmalaya mountains, some Rhododendrons, and the Cedars growing there; Nepal,

Benthamia fragifera, Endl. ; the East Indies, *Jasminum grandiflorum*, L., *Thea bohea*, L., β *bengalensis* ; China, *Lagerstroemia indica*, L., *Illicium anisatum*, L., *Olea fragrans*, Thunb. ; Japan, Camellias, *Gingko biloba*, L., that rare Conifer, with broad leaves ; California, the *Pinus sabiniana*, Dougl. ; the American highlands, Mahonias, Fuschias, Escallonias ; and the lowlands, on the other hand, *Agave americana*, L., *Alstroemeria ligtu*, L., *A. psittacina*, Lehm. ; the La Plata States, *Mahonia diversifolia*, Sweet. ; New Holland, the *Acacia dealbata*, Lk. ; and, finally, New Holland, the *Phormium tenax*, Forst.

Our visit to the garden at Nikita had occupied the whole day, and was repeated the following morning. Mr. von Hartwiss was so instructive, that I was glad to be a voluntary prisoner, and we only quitted his hospitable house after dinner on the following day.

On our road back to Yalta we visited another estate, at Magaratch. Two days previous I had formed the acquaintance of Major Frömbder, at the house of Prince Galitzin, and also brought a letter of introduction to him. He is an engineer officer, the same who made the excellent road along the southern coast. His estate differed greatly from those I had hitherto visited ; for, except the gardens of Nikita, the property in this neighbourhood belongs almost exclusively to families among the Russian nobility, who

only spend a portion of the year in the Crimea, and therefore during their residence here occupy themselves chiefly in searching after pleasure without respect to useful objects. Although Major Frömbder's country house was not only habitable, but had an air of comfort, his principal thoughts were centered in his vineyards. The sterile clay-slate soil had been cultivated with considerable difficulty, and was already tolerably productive.

Wherever the original vegetation still existed, it was of the poorest kind. There were only a few *Hieracias* and *Teucrias* among the herbaceous plants. The downy-leaved Oak, the oriental Beech, the Dogwood, the Maple, and a kind of Willow were most abundant, though they nowhere formed dense foliage. The only tree of any size was the Mountain-Ash, whose little scarlet berries are known to us as Eve's pears.

Towards evening a fearful storm arose, and we were induced to accept the kind invitation of the Major to spend the night at his house. The storms on an inland sea are generally violent, and on the sea-coast even more than in the interior of a continent; but on the north coast of the Crimea, and especially on the Black Sea, they frequently assume such a threatening aspect, that the stoutest trees are cracked all round, and vessels are completely shipwrecked. Probably this is the reason why even on productive soil we never

here find stems of trees of any size. These frequent storms, coupled with the fact that depredatory hordes inhabited the neighbourhood of the Black Sea, no doubt have given rise to its appellation of the inhospitable sea (*ποντος αξενος*), a name which it has borne from the earliest times. The storms frequently become whirlwinds, and earth, stones, trees, and shrubs, are hurled into the air, sometimes falling to the ground miles distant from their original position.

After midnight the storm somewhat abated, but previously the wind howled, and the waves of the sea rose house-high, dashing against the rocky coast. Woe betide the ship that then chanced to be near the coast, for there was not a hope of her salvation! and those in her were fortunate who were able to save themselves on a light boat, by reaching some tolerably level spot on shore.

The following morning we rode back to Yalta, where we had been long expected. It was reported that the steamboat which communicates between Kertch and Odessa had been damaged, and had suspended her usual voyages, but that another had been supplied by the Russian government. We waited the whole day, but in vain, and therefore determined the following morning to make another excursion into this enchanting neighbourhood.

CHAPTER VIII.

ORIANDA AND LIVADIA.

The gardener's house — Mr. Rögner — Volcanic eruption — Fine view — Vegetation — Three excursions — The first cliff — The tall juniper — The castle — Plantain-tree — Two blocks of rock — The deer-park — The second and third cliffs — Taurian pine — The *Arbutus* shrub — The fourth cliff — Ivy — Mount Megabi — A storm — Livadia — Count Pototzky — Beautiful grounds — The castle — View — Plots of turf and groups of shrubs and flowers — Absence of grottoes and arbours — Little Orianda — Juniper with yellowish-red berries — Parasite on the Mistletoe — Cape Aitodor — Lighthouse — Herbarium of Crimean plants.

ON the 1st of October I proceeded to Great, or, as it is also called, Imperial Orianda. Adjoining the road, and situated in the midst of a most lovely, smiling district, bounded by four abrupt cliffs, stood a cottage whose walls were entirely concealed by *Nasturtiums*, *Lobæas*, *Passion-flowers*, *Maurandias*, and *Jasmine*. Near it were some flower-beds containing the bright-red *Fuchsia*, the blue *Salvia*, varieties of *Cuphœa*, *Bouvardias*, and others of our garden-plants remarkable for their brilliant colouring, and above these the glossy or dull green leaves of the *Myrtle*, *Bay*, *Phylleria*, and evergreen *Alaternus* contrasted with the splendour of the flowers in front.

This solitary cottage was then inhabited by Mr. Rögner, a gardener of artistic taste, by birth a Hanoverian, and now Inspector of the Imperial Gardens at Kutais in Trans-Caucasus. I willingly yielded to the kind invitation of the owner of this lovely spot, and spent above a week in his society.


If a hospitable welcome from a countryman proved a solace to my home-sick heart, Mr. Rögner's scientific pursuits afforded me even greater gratification, for I gained much valuable information and instruction by his perfect knowledge of the south coast, especially with reference to its vegetation, and in his company I made several most useful excursions, both in the immediate neighbourhood as well as a short distance away.

The Emperor Alexander and his consort selected Orianda as the spot where they might spend the finest seasons of the year in quiet retirement, far from the bustle of the capital. Here, surrounded by a combination of charms which are rarely to be found, the monarch might have enjoyed the tranquil and contemplative life he so much yearned after in his latter years, had not death surprised him suddenly at Taganrog, and he was soon followed to the grave by the Empress Elizabeth. The beautiful estate was then presented by the Emperor Nicholas to his consort Alexandra (the Princess Charlotte of Prussia), by whom

it was visited in the year 1837, but who, as far as I am aware, has not been in Orianda since that time. In 1837 an English architect, Mr. Hunt, was commissioned to build a castle worthy of its owner, but also worthy of the enchanting site, while the task of developing its native charms was assigned to Mr. Rögner.

The situation of Orianda, as I have already remarked, is extremely different from that of Aloupka. That blustering god, old Vulcan, who long since planted his workshop in the infernal regions, rattled with as much violence against the pillars of the vaulted globe at this spot as elsewhere, but was unable to obtain egress for the rock which had been fabricated within. The thick beds of limestone were indeed here and there elevated perpendicularly, and at other places shattered, and the fragmentary rock hurled confusedly together, which occasioned others several hundred feet high to rise precipitously, which have remained unaltered during the course of several thousand years, occasionally supporting fragmentary rocks on their summit, which threaten momentarily to tumble into the depths below. But Vulcan has since then retired into the innermost regions of the globe; and it is only here and there on the surface of our earth that his fire-spitting chimneys tower above the plains inhabited by man.

Orianda consists of a slanting elevation, bounded on



the north by an abrupt precipice rising to the height of a couple of thousand feet, and on the south washed by the now stormy and now tranquil sea. The view on either side is more extensive than at Aloupka. Towards the west it extends as far as St. Theodora (Aitodor), *i. e.* the promontory on which the above-mentioned lighthouse is erected. Eastward stretches the Bay of Yalta, with the small town of one street bearing the same name. Still farther, and close to the sea-shore, the land projects, and seems to merge into the rock cliff immediately behind, while beyond lies Magaratch, with its Tartar houses and estates. The best prospect of the cleft which divides the rock precipice into two portions may also be obtained at Orianda, where it forms a ravine whose sides descend abruptly, though with intervals of terrace-like breaks. Several country houses are situated here, hardly visible in the midst of the fresh green of the surrounding foliage.

The view at Orianda is not only more extensive, but the aspect of the ground is also very different from that at Aloupka. The wildness of the latter spot has been only modified by the hand of man; it has become more picturesque, but in some spots has also retained its fantastic aspect. In Orianda not a trace of this wild grandeur is to be found; even the large extent of ground has a tendency to mitigate the primeval

breaking up of the surface. The rain cannot penetrate to sufficient depth to flow beneath the ground into the sea, but collects in clefts and cracks which are situated above the level of the water. Springs appear at intervals ; and as water and the requisite amount of heat constitute the principal conditions for the growth of plants, these last exhibit uncommon luxuriance and density of foliage at this spot. We may seek in vain at Orianda for the fallow, gray, black-looking ground which appears at Aloupka wherever it has not been touched by the hand of man. The Oak-trees, Beeches, Dogwood, &c., have everywhere a fresh, green appearance. Even the rocks rarely present any perfectly bare surface, for they are not only covered with variegated lichens, but also by the *Silene* ; the Pink and Harebell also appear in greater or less profusion. Besides these there is the Ivy, Juniper *Arbutus*, and similar kinds of shrubs. Even the Taurian pine has descended from the borders of Yaila, almost the only spot where it elsewhere appears, establishing itself on the masses of rock projecting from the declivity.

I have here given a mere outline of the situation of Orianda, but will now endeavour to condense the impressions I received during several expeditions, and transfer my recollections into words. It would give me much satisfaction if, by a simple observation of the manner in which Nature has lavishly developed her

charms, and by a faithful reflection of what came under my notice, I were in any way able to convey an idea of what would be even difficult for the pencil to portray in all its grandeur. Simple delineations of this kind are indeed generally too much set aside. The traveller resigns himself to the impression, but does not consider it worth while to put it down in words. Such contemplations and delineations, besides, lead us back to nature, from which our books unfortunately too often keep us asunder.

One very beautiful morning we quitted our pleasant dwelling in order to make nearer acquaintance with the region beneath us stretching to the sea. We first ascended one of the four cliffs between which, as I said above, the cottage is situated, in order to obtain a survey of the ground over which we were to pass during our proposed excursion. It lay beneath our feet, extending westwards, and inclined against the declivity, forming a rising ground, which seen from this spot had the appearance of a conical hill about 100 feet high. A winding path led through pleasant brushwood to the summit, where isolated rocks lay scattered. This summit was once, no doubt, the surface of the ground, which was raised up, and the fragments now form a cone on the elevated cliff. It presented a most singular appearance. One rock stood erect, with another leaning obliquely against it,

thereby causing a cleft; a third was again placed horizontally on the summit of the first, and in this threatening position has remained for several thousand years.

Having reached the summit it is difficult to know whither to turn, for the eye, attracted towards one point after the other, wanders from the distant prospect to what lies immediately around, until it has recovered some composure, and can enjoy the whole with greater leisure. For this purpose, however, I sat down on a seat of knotted wood, and thus all distant view was intercepted from my sight. In front of me lay the enormous blocks I have already mentioned, which are partly kept in their position by smaller fragments of rock. Not far from these yawned a deep chasm, like the jaws of some wild beast, and on the other side of my natural bench two rocks stood opposite each other, forming a kind of gate, through which the road led into the enclosed space. Behind me I observed an aged *Celtis orientalis*, with dark and dull foliage and some nearly withered orange-coloured berries. Between the gate and the first-mentioned rock stood a splendid native Pistachio (*Pistacia mutica*, Fisch. et Mey.); it had a crooked stem, having been bent by some cause, but its spreading branches formed a natural roof over the gate. Farther forward, overhanging the precipice,

was a splendid specimen of the Juniper (*Juniperus excelsa*, Bieb.), which, in place of needles like the Thuja or Cypress, had imbricated succulent scales. I had nowhere in the Crimea seen a tree of equal size, except in a few scattered instances in the valley of the Churuk. The stem was no less than three and a half feet in diameter. When we consider that the juniper is a tree of slow growth, this one, to acquire such a size, must be above a thousand years old. These, therefore, are perhaps the only trees which witnessed the appearance and disappearance of all the different races at the period of the migration of nations.

I at length quitted my seat, that I might also turn to the distant view, and, gazing over the sea from the terrific rocky height on which I stood, watched some vessels slowly impelled by their white sails over the dark blue-green waters. Even when assisted by a glass, the eye can behold nothing beyond the waste of waters. I repeated my visit to this spot more than once, especially in the evening, to watch the sinking sun which had long gladdened the homes of my fatherland, but even there at length must have disappeared behind the western horizon.

Far below me, rather more to the right hand, stretched the slightly inclined plain which has been selected as the most favourable site for the imperial castle, and on that account has been still further

levelled. Two enormous blocks of rock bounded it in the direction of the sea; the ground was covered in every direction with the most beautiful leafy wood, but, in my opinion, there was too great preponderance of this last, for there were no meadows or turf-plots, so pleasant to dwell upon when there are so many objects to attract the notice. On the right hand rose another precipitous rock, on the bare ridge of which were placed some Doric columns in the form of a ruin.

At length we quitted the terrific yet beautiful summit of the precipice, not far from which a quarry has been made. The newly-cut stone strewn about the ground contrasted strangely, and not agreeably, with the lichen and moss-covered rock. It will be long before Mother Nature, united with Art, will be able to withdraw these naked stones from observation, and restore the unbroken harmony of the picture. During my visit to the Crimea, all that was completed of the castle were the cellars and the ground-floor, but the first story was about to be commenced. The building forms a quadrangle, and is built in exact reference to the points of the heavens, but, on that account, with utter disregard to good taste, for it is in an unnatural position with respect to the elevated ridge and the sea-shore, which run parallel to each other. All the rooms below the level of the ground were vaulted,

but they appeared of rather small size. Greenstone has been employed in this portion of the building, but the upper portion is composed of the pale-red Jura Limestone and dazzling white Inkerman rock. It was impossible to form any judgment of the whole by the small part then completed, but I fear the decorations are not proportionately large for the height on which they stand.

The immediate neighbourhood of the castle is rather marshy, but this superfluity of water might be employed in forming an artificial lake with all kinds of beautiful water-plants. There is a handsome grove of the white Willow and tall Alder, round which twined the wild Vine and Ivy: the former was particularly picturesque, and reminded me much of the primeval forests of ancient Colchis, where it climbs freely to the summits of the tallest trees, hanging from one stem to the other in natural festoons. The ivy was covered with blossom, but on that account had not the beautiful notched form which is so much admired at home.


From this point we turned towards the sea in the direction of the two huge blocks of rock which stood like watchmen on the sea-shore. A path winding beneath the leafy roof of large Walnut-trees, and afterwards through a thick wood, first conducted us to a waterfall. The darkness of the wood and the stillness

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of nature, only broken by the rippling of the water in the brook, or by the still more distant roar of the breakers, cast a soothing influence around.

Pursuing still farther a zigzag path, we at length reached an open space bounded by the rocks which rise out of the sea. Here Mr. Rögner has laid out a kind of tropical garden, where we observed the beautiful plantain-tree (*Musa paradisiaca*, L.) growing more luxuriantly than I had ever before witnessed, its large polished leaves, with scarcely a single slit, nodding gracefully and the flower-spikes just appearing. Not far from this a considerable space of ground was planted with the sweet potatoe (*Batatus edulis*, Choisy). This interesting plant belongs to the family of the Convolvulacea, and in all tropical countries forms a substitute for our common potatoe, which does not flourish in those regions. It came originally from the East Indies, and, on account of its utility, has been distributed through all the tropical and sub-tropical regions of the globe. Mr. Rögner ordered a dish of the tubers to be prepared for our dinner. They taste sweeter than our potatoe, and somewhat resemble the tubers of the Jerusalem artichoke (*Helianthus tuberosus*, L.), which is occasionally cultivated in Germany, but has never met with the same approval as the potatoe: the Jerusalem artichoke is also originally derived from America, namely, from Brazil.

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A path has been excavated with difficulty up one of these huge blocks of rock which stand near the sea, rendering it easy to mount to the summit. The sea, which so lately had been tranquil, was now lashed by a violent wind, and long stripes of white foam covered the agitated surface of the water. The waves were dashed against the solid rock with such force that they rebounded, howling wildly, and half transformed into foam and dust. What a contrast when I turned away from this and gazed upwards towards the mountains! Immediately beneath us, the open space, which was partly enclosed for cultivation and partly meadow-land; beyond, the commencement of the imperial castle; and still farther, a dense green foliage, presenting every imaginable tint, from which precipitous rocks projected, extending to where the barren rock rises to the height of several thousand feet, with the melancholy Taurian pine upon its summit.

From this point Mr. Rögner led us by different paths and plantations to the deer-park, a space of ground about three English miles in circumference, containing no thick wood, but only a few oak-trees standing singly. Stags and does have been caught in Russia, and are allowed to enjoy their freedom here within the circumscribed bounds: they have increased so rapidly that the does may be seen in troops in every direction, and the stags by twos and threes. As

they are not only fed regularly during the winter, but also in the summer-time, they have gradually become so tame that they rather follow than fly from man. A lake has been constructed in the middle of the park, but is not remarkable for beauty. My obliging guide called my attention to the rapid growth of some white willows with pendulous branches which were growing at this spot. In less than ten years their stems had reached the height of forty feet, and their crowns were between twenty and twenty-three feet in circumference.

Quitting the deer-park, we continued our expedition in another direction, and at length reached the second cliff, with the Doric columns on the summit, a short distance from the gardener's house. It does not retreat as far back as those I have already described, and neither exhibits the fragmentary rock on its summit, nor is it clothed with wood. The Doric columns have a more imposing effect in the distance than near at hand, where they look insignificant beside the grand scale of the immediate neighbourhood. Whoever has not been used to precipices should remain below, and beware of what really might be dangerous to a person liable to fits of giddiness.

Beyond this cliff commences a thick wood, extending as far as the high road. After our six hours' uninterrupted walk we at length arrived at Mr. Rögner's house thoroughly exhausted, but we gradually recovered

through the kind hospitality of my host. At dessert we were presented with grapes from the vines peculiarly cultivated in this neighbourhood, which were all remarkable for their sweetness and excellent flavour, but with the same thick and astringent skins I have already mentioned.

Another day Mr. Rögner led me to that part of the Emperor's property situated north of the high road, occupying the space between it and the mountain range, including the two upper and far larger groups of rock. Little has been done by the hand of man, although much might be advantageously effected. The native Elm and both kinds of Hornbeam, the Maple, Dog-wood, Hawthorn, the common Hazel, and other shrubs were untouched. There is only a narrow path, which has been cut to ascend more easily to the top of the rock. We were soon beyond this point, and found ourselves on a beautiful level surface, which appeared covered with taller but less dense shrubs, and a few trees, especially the Mountain Ash, Oak, and Maple, and on the summit of the cliff itself the Taurian pine. This tree, to which we have so frequently alluded, chiefly resembles the *Pinus maritima*, of which it is sometimes only considered to be a variety. It has, however, larger needles, and is remarkable for its horizontal, fan-shaped branches, which gradually become shorter towards the summit, giving it a pyramidal

appearance. The tree attains neither great height nor size ; I did not see a single specimen above thirty feet high, or a stem exceeding a foot in diameter.

We walked round the cupola-shaped elevation covered with limestone gravel, and reached a pleasant meadow, which displayed a larger extent of fresh green surface than I had seen for a long time past. A Tartar had made a portion of it arable and planted it with potatoes, but, unhappily, some dishonest peasantry had cut him out of the harvest, and, as the poor man justly remarked, had deprived him of his bread for the approaching winter. We pushed on through dense thickets to the front of the cliff, where it had a less precipitous inclination. Here we again seated ourselves on a stone, and from an elevation of 1500 feet above the level of the sea looked down over the numerous summer-houses and habitations visible in the midst of charming grounds.

A handsome *Arbutus* (*Arbutus andrachne*, L.) grew in a cleft of the rock, and had evidently stood there for several centuries. It had defied all the storms of nature, till at length sacrilegious hands had deprived it of some of its most beautiful branches. Ever since the southern coast has been a favourite resort of the Russian nobility, this *Arbutus* was an object of admiration. Strangers were always conducted hither to behold the glorious prospect and this splendid speci-

men of a tree. The deed is still more to be regretted, as it evidently proceeded from malice, for the branches were found lying close beside the stem. It is not improbable that it was committed by one of those fanatical Tartars who still continue to bear a grudge in their hearts against the Christians, the enemies of Islam, and yet are too strongly attached to the soil on which they were born to make up their minds to emigrate. The Prince ordered that the branches which had been lopped off should be left at the foot of the stem, in order that they may bear testimony to the size of the tree; but even in its present damaged condition it interested me extremely. The *Arbutus* is one of those evergreen shrubs which have no underwood, and grow on rocky ground. It is very rare to meet with any extent of ground exclusively occupied by this plant. One instance, however, where this occurs, may be seen in the lower portion of the Churuk valley, and it has a very peculiar effect. The light, brown-red bark which peels off in strips, forms a strong contrast to the brilliant fresh green of the leaves and white pendulous cluster of blossom, or to the fruit, resembling the strawberry in colour and form. The specimen now before us was three feet in diameter a foot above the ground, but since it had been deprived of its finest branches was altogether only twenty-four feet high. There were other *Arbutus*-shrubs beside it,

which probably derived their origin from the larger one. The tall Juniper without the narrow leaf, which I have also mentioned above, was not uncommon at this elevation, but, as both *Arbutus* and *Juniper* do not find sufficient subsistence on the barren rock, some among their roots, occasionally an inch or an inch and a half in diameter, creep along the cliff till they discover a cleft affording sufficient space and sustenance for them to take firm root. These again occasionally send forth fresh roots to seek some other cleft at a greater distance below, where the vegetation growing at the margin of the precipice obtains fresh nutriment, and thus they descend to the depth of between forty and fifty feet.

We at length quitted our lofty eminence, and turned aside towards the fourth of the cliffs, which is situated higher and is farther west. This is beyond the limits of the property of the Empress, but is part of Little Orianda, formerly in the possession of General von Witte, by whom it was left to Leon Narishkin, and again by him to the Grand Duchess Helena. Little Orianda bears a strong resemblance in situation and otherwise to Great Orianda, but it is much neglected. In front of the cliff that we have just mentioned, and separated from Little Orianda by a chasm one hundred feet in breadth, there is a cave whose dimensions are not very extensive, but which, seen from a

distance, greatly heightens the effect of the landscape. A path leading to it is cut through the thicket, but I regretted that no attempt has been made to obtain a distant view; indeed, much might in many ways be effected here, for Nature has been lavish of her charms. The cliff is also remarkable by rising perpendicularly without a single break, notwithstanding which, two Ivy-plants have contrived to clamber up and clothe a portion of its otherwise entirely bare surface with living green, forming a wonderful contrast to the yellow-white colouring of the rock. The stem of one of these plants, immediately above the ground, was about a foot and a half in diameter; it has probably grown here for several hundred years past. The other specimen was much smaller, but very interesting to me, as the actual stem had long since been mischievously cut asunder, notwithstanding which, the upper portion seemed as green as ever, and continued to send forth fresh branches, which clung to the rock by their suckers.

Farther westward there was another depression at the base of the precipice, to which a staircase composed of billets of wood conducted. This hollow does not greatly contribute to the embellishment of the scenery, especially as it is buried in thick and monotonous thicket, which affords no distant prospect, but it might be much improved by cutting away a portion of the wood. There is a gilt cross on the top of the cliff,

which is visible at a great distance. An ancient mountain fortress, called Megabi, stands here in the midst of insignificant ruins, and probably owes its origin to the Genoese, or even to the Greeks.

We then proceeded still farther across that portion of Little Orianda situated to the north of the high road. There was much to admire, but, having seen what was more beautiful, it does not merit being described. Less care, besides, has been bestowed on this portion of the ground than what lies below, and strangers are very rarely conducted hither. It was, however interesting to me, for here alone existed the original wood, without any intermixture of foreign trees and shrubs. Most conspicuous were some beautiful specimens of the downy-leaved Oak (*Quercus pubescens*, Willd.), a species exclusively belonging to the East of Europe. Those known to us by this name in Italy and the West of Europe, especially in the Pyrenees, are probably only varieties of the pedunculated oak, and belong to *Quercus pyrenaica*, Willd., and *Tozza*, Lam. The Crimean *Q. pubescens* is a small tree with a short stem between four and six feet high. It generally divides simultaneously into between four and eight main branches, which spread out horizontally, thus causing the stem to stop short beneath the crown of the tree, which is frequently between forty and fifty feet in diameter. I did not see a single specimen of this tree above forty or fifty feet in height.

On our third excursion we proposed to make ourselves better acquainted with the romantic ravine of Yalta. Unhappily, however, there rose such a violent wind, at times amounting to a hurricane, that we were unable to keep our seat on horseback, and were forced to dismount. This storm was succeeded by several violent showers of rain, which each time drenched us to the skin. Nothing remained but to seek refuge in the inn at Yalta, and to wait more favourable weather. We were told that such storms are of frequent occurrence, both by night and day. Many vessels were then wrecked, and those not absolutely compelled to go to sea remained quietly at home, for, however insignificant the waves, with hardly a ripple on the surface of the water, yet, the more tranquil they appear, so much the greater danger of an approaching storm. The winds here are still more dangerous on account of never remaining long in any one direction. They not alone veer round suddenly and blow from the opposite quarter, but two winds often blow violently from two different points at once, and at their confluence the most awful havoc is committed.

The abrupt cliffs may be regarded as somewhat influencing the mutability of the winds. I was told that vessels and boats which had not cast anchor were frequently driven out of the harbour of Yalta, and dashed

into the open sea. This is probably occasioned by the west wind, as the vicinity of the lofty mountain range, 4000 feet in height, forms sufficient impediment to the effect of the north wind ; the former, imprisoned, as they say, in the Bay of Yalta, suddenly escapes with such violence that it overturns, or drives before it, whatever in any manner opposes its progress. There even have been instances when people (especially those wearing cloaks) walking by the sea-shore have been driven into the sea, and only saved from drowning at the utmost peril.

Last spring a carriage and horses, with the coachman and a gentleman inside, were dashed into the sea : a rope was thrown to the latter, who was saved with considerable difficulty ; but the coachman and horses were drowned, and nothing more was heard of the carriage. A sailing-vessel with provisions, on a voyage last year between Sevastopol and Nicolaev, was suddenly overtaken by a tempest and driven with incredible velocity to Asia Minor. Happily the vessel was not damaged, but it took eight entire days to reach its original destination from Trebizond. A few years ago the owner of an estate on the borders of the sea started in a small sailing-boat in the most beautiful weather to visit a friend who resided at some little distance. A sudden storm seized the frail boat, tossing it hither and thither among the waves ; and it was three days

before the wretched man once more reached the shore, with his nerves so shaken by the adventure that he was obliged to be conveyed home in a carriage.

The grounds of Count Pototzky (Potocky), the Russian ambassador at Naples, are situated between Imperial or Great Orianda and Yalta, extending from the sea-shore to the abrupt rise of the lofty precipice. This place bears the name of Livadia, after a town said to have been formerly situated at this spot, of whose remains I had heard much, but had not seen, and a more suitable name could not have been selected for this estate. I took several walks about the grounds during my prolonged visit to Orianda, in compliance with the invitation of the hospitable proprietor, and each time admired the beauties and graceful charms which are developed in a variety of ways, and extremely different from what I had observed in all other places on the southern coast. It is evident that the owner is frequently upon his estate, and takes upon himself the task of embellishing the grounds. For months together Count Pototzky quits lovely Naples, the city which from its enchanting situation is alone comparable to Constantinople and Rio Janeiro, and here resides in rural and tranquil retirement far from the turmoil of life.

The goddess of hospitality has erected her temple at this spot as well as on the other estates of the

Crimea, and every stranger receives a hearty welcome. Even in the absence of the proprietor, his steward Marko is desired to fulfil the wishes and supply the wants of visitors, which office he performs with good will.

If Orianda is in a still more beautiful situation than Aloupka, this is even more the case in Livadia. This spot has the advantage of possessing a greater extent of level ground, but then, again, is totally deficient in groups of rock. It has, therefore, more the appearance of an English park, pleasant meadow-land alternating with clumps of trees and plantations. There is a general harmony in the effects, which is produced by the absence of abrupt transitions, the eye passing gradually from one object to the other. The fantastic and wild appearance of the scattered masses of rock, and the rugged and imposing precipices rising even more abruptly, are not apparent here, but on the other hand they are replaced by a beauty and elegance in the groves and plots of turf, as well as in the buildings. The previous gardener, Tashner, who has been the chief designer of these grounds, was an artist in every sense of the term.

The castle is built on a slight natural inclination, in the Italian style, immediately adjoining the high road. It consists of two buildings meeting each other at right angles, with only one story above the ground-floor, the

latter containing the usual dwelling-apartments of the family. These comprehend the saloon and dining halls, as well as the apartments assigned to single people who may wish to live retired, and follow their own inclinations without interruption. The upper apartments are splendidly furnished, and only inhabited when the house is full of company. Here I saw an oil-painting by Raphael, of the Virgin with the Infant Christ upon her knee.

There was a most beautiful view from the balcony, as well as from the terrace on the roof. The former commanded the Bay of Yalta, which is enclosed on the east by the promontory of St. Daniel. The Yalta ravine appeared extremely beautiful from hence, with its singular groups of rock, which again seemed to be bounded on the summit by the Taurian pine. The church of Massandra, situated on a spur, reminded me of temples on the coast of Greece. Behind the promontory rose the apex of the conical Bear Mountain, Aiou Dag, which seemed to project far into the sea; and still farther on, the mountain range skirted the coast in the dim distance as far as Sudak, where another promontory projects into the sea, dividing that bay from another, in the bend of which is situated Theodosia. It is indeed a magnificent prospect; on one side across the wide sea, on the other towards the mountain range rising up behind.

There were some lovely plots of turf immediately round the castle, the want of which I felt so much in Aloupka, and which there would have so much contributed to mitigate the wild character of the scenery. They do not, however, deserve this appellation, so far as this implies that the plots are composed exclusively of grass. I was informed by Mr. Marko that plots of genuine grass, especially English Rye-grass, do not succeed here, which renders it necessary to sow some other green plants in addition. For this purpose the pink clover, *Trifolium incarnatum*, L., has been employed. Lucerne clover has been also now and then used, but with less success. Plots of blue Salvia, red Fuchsia, but chiefly of scarlet Pelargonium, were placed on those green spots. A number of climbing-plants were planted against the house, and these, covered with blossom, had already so completely clothed the white walls that they were scarcely visible.

The groups of Taxodias, Arbor vitæ, Oleanders, Magnolias, &c., were arranged with the utmost taste. The plantations of the evergreen Alaternus and Phyllerias were not, however, in harmony with the other beds, as their spreading branches, though well covered with leaves, which they do not lose in winter, were more or less angular, and gave a formal appearance to the whole. They are very suitable to hedges where shears are put in requisition, and are also fitted for

gardens laid out in the old-fashioned French style, but not at all adapted to an English garden, which ought to have undulating gentle forms and easy outlines.

The monthly roses, which were still in full blossom, had a most beautiful appearance ; for not only was there every variety of tint in the foliage, but the roses also exhibited all manner of shades, from dazzling white to the most brilliant red. The East Indian creeping-rose, *Rosa involucrata*, Roxb., was also employed to cover the ground with its blossom. Several very pretty fancy kinds were produced by crossing, and displayed magnificent large flowers.

I shall say nothing of the English grounds, as I should only state what is already known. The native Oak (*Quercus pubescens*, Willd.), of which one at length becomes quite tired in this southern coast, was here almost entirely extirpated. The genuine weeping Willow (*Salix babylonica*, L.), rising from the dense foliage of the larger groups of trees, and giving a more picturesque appearance to the whole by its graceful pendulous branches, deserves some notice. I had never seen this tree, which is so valuable in landscape-gardening, planted to greater advantage than in the park of Count Podotzky. Unfortunately, it has not a long life with us, and is easily killed by a slight amount of cold, and has but a poor substitute in the pendulous

varieties of the white willow (*Salix alba*, *β. pendula*, and *nigra Wahlenb*).

I also felt the absence of grottoes, arbours, and resting-places. It almost seems as if it were considered unnecessary to have such things in a park inhabited by so few people. But even should they not be required for the purposes of repose, they nevertheless form an agreeable change to the eye, and remind the solitary wanderer, who is perhaps too much absorbed by his own reflections, of the world around him. I should have also liked to have seen a greater number of footpaths by the sea-shore, and that more had been done for the lower portion of the park. There were besides too few open spaces on a higher level to offer free prospects of the sea. The great infinite sea ought to have been in some manner introduced to adorn the park : for instance, how agreeable it would have been in every sense to have had a pavilion close to the sea-shore. I ventured to submit this idea to the proprietor, and was glad to find that he admitted the deficiency. It was, however, impossible for everything to be completed simultaneously, and this probably was not commenced before the year subsequent to my visit.

The Count has endeavoured in some measure to supply the deficiency of buildings of larger and smaller size, by causing the offices and servants' apartments to

be built with a handsome exterior, and in general harmony with the rest ; they are however situated too near to each other. The washing and drying houses, for instance, which in general are constructed with utter disregard to taste, are very different here, reminding us of the unsubstantial buildings of the Eastern nobility. An infirmary, which has been erected by the Count for the use of his labourers, also corresponds with the surrounding buildings.

It was a beautiful afternoon when we visited Little Orianda, and the coast as far as the promontory of St. Theodore, Cape Aitodor. We had made the acquaintance of two young artists, who were staying here to prosecute their studies, and received permission to pitch their dwelling in Little Orianda. One of them, Mr. Meyer, had spent the previous summer on the Altai mountains.

Accompanied by these two painters we first visited Little Orianda, though confining ourselves to the lower portion of the estate, south of the high road. Little had here been effected by the hand of man. The vegetation, with few exceptions, was everywhere in its original state, a few foreign shrubs only being here and there inserted. The native wood was more luxuriant than I had seen it elsewhere : the Maple, downy-leaved Oak, as well as the summer Oak and Mountain Ash, in some spots had reached a considerable height. For that

reason the southern coast here displayed a greater amount of wood than in other parts. The ground was more rocky than in Great Orianda, and forcibly reminded me of some parts of Aloupka. Although fragmentary rock lay scattered in all directions, and even the ground itself was in some parts stony, yet both were composed of limestone ; the greenstone had nowhere penetrated through the covering, and I did not even observe clay-slate. The repeated overthrows of the ground has, however, rendered it porous, and also probably produced a great number of clefts in the interior, so that the rain and snow-water are able to penetrate and to emerge at other spots in the form of springs. The fragmentary rock was thickly covered with grass or moss, or was more or less weathered on the surface. The roads which have been constructed are very inferior to those on the other estates, and do not always lead past the most interesting points.

The nearer we approached the spur of land which at its extremity forms Cape Aitodor, the fertility of the soil gradually disappeared, and the underwood became thinner, especially the native Oak and Oriental Hornbeam. The Juniper, with its bright, brownish-red berries (*Juniperus rufescens*, Lk.), so long confounded with the Juniper cedar (*Juniperus oxycedrus*, L.), appeared gradually in greater abundance. At the beginning of our excursion this shrub had a stately

appearance, and resembled the Cypress in its growth, only that, instead of the succulent scales, it had prickly-pointed needles. This species, like the tall Juniper, also prefers rocky ground, but still more that which is covered by crumbled rock. In very barren spots, and in windy quarters, the stem rests on the ground like our Savin-tree, and only sends forth its branches upwards; this species was especially interesting to me, owing to the presence of a small Mistletoe parasite growing on it, similar to the genuine Juniper cedar of the south of France. This parasite is also remarkable and is distinguished from our mistletoe by its stalk being distinctly marked, for which reason it forms one of that group whose centre is principally confined to the East Indies. Marshal von Bieberstein, the diligent author of the 'Taurian Caucasian Flora,' was correct when he estimated that he had discovered the type of a new genus in the Juniper mistletoe. For that reason he named it *Arceuthobium*, the juniper parasite, but this particular species *Arceuthobium Oxycedri*.

Having reached the ridge of the spur which separates the Bay of Aloupka from that of Yalta, the whole view altered, together with the vegetation. The same wild, picturesque, and fantastic district, of which I have already given a minute description, was disclosed to our sight. From where we now stood beside the sea the view was on a grander scale than from the point where I

described it in the midst of the confused mass of rocks. The precipice, which here rose abrupt immediately behind Prince Woronzoff's grounds, was exceedingly imposing by its grandeur. Not a single shrub or plant had succeeded in fastening its roots on the barren rock, and even at a higher elevation, where the rock in some places was rent, and where it presented a multitude of jagged notches, it was bare and naked.

At length we reached the highest point of the promontory, where a lighthouse has been erected by the Russian government for the security of sailing vessels. It was the first time I had seen the internal arrangements of such an establishment. The tower consisted of two stories and a winding staircase, which led to the uppermost terrace, where there were six lamps: their light was reflected by a metal mirror, and might be seen at an immense distance, though frequently only as a luminous point.

The view from the top of the lighthouse was even finer than what we had before seen. It was difficult to know whether to turn towards the tumultuous sea, whose waves dashed against the hard rock of the promontory, and were thrown back in the form of mist and dust, or towards the rocky shore on either side; whether to gaze on the indented crest of the range which closed in the view, or on the declivity sloping from its base, with its wild rock-ruins and

lovely picturesque grounds that had been produced by the skill of man. Either prospect was imposing; the one the emblem of the infinite, the other of the finite, to which all mortals must submit.

Near the lighthouse were some remains of ancient masonry and portions of columns. Ere Islam had caused its dominion to be felt here there was a Greek monastery on this spot, whose monks assumed the honourable office of receiving into their narrow cells the unhappy wretches whose vessels were cast on the hard rocks and shipwrecked, and of succouring them until they were able once more to determine their future fates. We also found the traces of a subterranean passage, which disappeared close to where the lighthouse stood: probably in ancient times a tower for a similar purpose stood upon the same spot.

We at length began to retrace our steps, and selected a narrow, and in some places a very difficult, path near the sea-shore. A number of beautiful points again presented themselves to view, especially as there was rocky ground as far as Orianda, most of which exhibited a variety of forms. I have several times expressed my regret that this part of the coast is totally or almost entirely neglected, and, after spending a longer time here and getting better acquainted with the beauty of the neighbourhood, I lamented it even more than elsewhere.

Towards evening we reached our rural dwelling. Mr. Rögnér was most kind in showing me all the beauties of the south coast, even sacrificing entire days in this service ; and I am also indebted to him for having kindly communicated to me his experience. With his consent I have inserted in a supplement to this volume the most valuable results of his observations, and I am persuaded that they contain much that will be of interest to the general reader, and which is calculated to attract considerable attention. Mr. Rögnér has made a collection of the plants of the Crimea, which he allowed me to examine, and he also permitted me to take specimens of the plants in his possession for scientific purposes. The result of what I have thence acquired is partly given in my contributions to an Oriental Flora, six numbers of which have already made their appearance.

CHAPTER IX.

JOURNEY TO ODESSA.

Departure—Aidanil—Bear-Mountain — Ourzouf — Condition of the ground — The eastern and western divisions of the southern coast — Dialects — Aloushta — The Iron Gate — Taushan Basar — The Tent-Mountain (Tchadir-Dagh) — The Salghir — Orchards — Simferopol — Difficulties about a passport — Uniformity of the plain — Expeditions of the Tartars — Perekop — Aleshki—The Saparogas — Kherson — Nicolaev — Professor Knorre — The Admiralty — Odessa.

IT really cost me a severe struggle when I was at length obliged to quit Orianda, where in Mr. Rögner I had found a kind friend. As it was uncertain whether the communication between Odessa and the southern coast would be renewed this autumn, Mr. von Smitten, the two Riga merchants, and I, determined to pursue our journey by land. Although this arrangement was not so agreeable to my companions, I was glad to have an opportunity of seeing the steppes of Southern Russia in the autumn as well as in the winter and summer, during which seasons I had already visited them. Besides, I was previously acquainted with the northern coast of the Black Sea, but had never yet travelled over the plain of the Crimea from Simferopol

to Perekop, where the peninsula is connected with the continent. The distance from Yalta to Odessa by this land-route is not less than 480 versta, therefore about 320 English miles.

On the 8th of October, 1844, I and my three companions started about midday in two post-carriages on the high road to Simferopol, the capital of the Taurian government. I had now an opportunity of becoming acquainted with a different part of the southern coast, where less had been effected by the hand of man. From Yalta we drove by Massandra and Magaratch to Aidanil, through a well-known country, and close to the boundary of the clay-slate and sandstone region. This is the first station after Yalta, ten versta and a half distant, and is named after a promontory jutting into the sea, the termination of a ridge or offset from the principal mountain range. The settlements in the neighbourhood, though made at a later period, also bear the name of Aidanil. This word, like all similar names commencing with Ai, *i. e.* "holy," is derived from the Greek. Ai is said to spring from ἅγιος (*hugios*), which also means "holy" in ancient Greek. The Byzantine Greeks were fond of bestowing the names of their saints upon their promontories, even though there might not be any church or sacred edifice on the spot. We were thus instructed to call the promontory bounding the great bay of Yalta to

the west by the name of Aitodor, *i. e.* St. Theodore, and that enclosing the same bay to the east Aidanil, *i. e.* St. Daniel.

Having reached the above-mentioned promontory, an entirely new prospect unfolded before us. The land beyond Aidanil retreats farther back, and forms a bay not inferior in dimensions, though very different in kind, to that of Yalta. Towards the east it is intercepted by a promontory formed by a conical mass of rock about 1800 feet high, almost disconnected with the remainder, and several smaller blocks rise out of the water in a completely isolated position. The great rock round which the road passes has been compared to a bear going to the sea with his little ones to quench his thirst, and has consequently received the appellation of the Aiou Dagħ, or Bear Mountain. It is exceedingly interesting in a geological point of view, as it is the centre of one of the most considerable eruptions of the whole of the southern coast. After the surface of the ground had been rent, the masses of greenstone formed in the interior were elevated, and have remained in that position many thousand years. Wind and weather have indeed endeavoured to exert their influence in the course of this long period of time, but the hard rock has been only so far altered on the surface, that the greyish-green and white streaks have changed to a blackish hue.

While the Bear Mountain itself has more or less the form of a rounded mass of rock, the devastation of the adjoining districts, occasioned by the protrusion of this rock, is still more evident. Immediately at the base of the mountain there is a wreath of blackish as well as greenish-grey and white-streaked rock, that seems gradually to pass into porphyry and melaphyr. A little farther off all manner of larger and smaller fragments lay scattered about, partly composed of clay-slate and partly of limestone. The above-mentioned sandstone continues in a nearly similar direction, but its reddish colour has been altered to a greyish-green, and here and there it passes into a conglomerate which was no doubt occasioned by the above-mentioned eruption.

Notwithstanding the variety of the landscape which had hitherto been presented, yet some fresh prospect was continually unfolding before our sight. The great Tartar village of Ourzouf, situated in a most romantic spot, enjoys a kind of beauty which is totally wanting in the otherwise enchanting Bay of Yalta. The houses, placed one above another in the form of terraces, shadowed by beautiful walnut-trees, form a picture well deserving of a painter's brush. Those at home, with their reddish-brown roofs sloping at right angles, are not nearly so picturesque in appearance as the far slighter habitations of the Tartars. The

villages with straw-roofed houses are a still better subject for the painter, especially if they are of tolerable age. I regret their increasing scarcity, with their frequently rich vegetation of moss and grass. I should have willingly remained longer in Ourzouf had not my companions been considerably pressed for time. We therefore drove round the Bear Mountain and soon reached Boyuk Lambat (here pronounced Buyuk Lambut), *i. e.* Great Lambat, seventeen versts from Aidanil. This conical mass of rock had a more smiling aspect from the other side of the ridge, where, except on the somewhat steep descent of the declivity, it was covered with a thick copse-wood of oak.

The vegetation of the southern coast assumes a different aspect after passing Aiou Dagħ. The shrubs growing above the Bay of Yalta, and still more that of Aloupka, were more spreading ; most of the branches stood out from the tree at an angle of 45° , branching again in the same manner. Here, on the contrary, though shrubs still predominated over trees, there were Oaks and Beeches, some of which had a more tree-like aspect on account of the main stem generally continuing to the top of the tree. The branches, besides, are more in the form of wands, *i. e.* they push out at an angle of 45° and under, and are long in proportion to their breadth. The downy-leaved Oak (*Quercus pubescens*, Willd.), which, together with the Oriental

Hornbeam, has hitherto formed the principal growth of wood, gradually disappears beyond (eastward of) Aiou Dagh, and is replaced by the Oak (*Quercus sessiliflora*, Sm., *Q. robur*, Willd.), closely resembling it, though always of larger size; and we cannot deny that the foliage of the latter offers a fresher verdure than that of the former with its greyish-green colour.

We had no sooner crossed the Aiou Dagh than another bay was disclosed, exceeding in extent both of those already mentioned: several smaller bays are included in this last. It is bounded on the east by a far more projecting promontory, Meganom, and on this side of it the very ancient and now re-erected trading city of Sudak is situated. There are some things in the world which puzzle us; for instance, an accident may occasionally cause a favourable situation, offering every imaginable advantage, to be neglected; but this also is sometimes attributable to the negligence of man. The whole extent of coast from Aiou Dagh to the promontory of Sudak, especially the first half of the road, offers such a variety of beauty that I cannot imagine why it has not been selected as the residence of some wealthy Russian. All the charms presented by the Bays of Aloipka and Yalta are here united, besides combining much which is wanting there. Old Vulcan has in many places rattled at the pillars of the crust of the earth. Rock, fabricated in the interior,

has protruded, in some places forming a solid mass, in others strawn on the ground in fragments, partially differing from what we observe above the Bay of Aloupka, since it has had a longer exposure to heat, and thereby obtained a more porphyritic structure. I have seen fragments where it was difficult to distinguish the feldspar and other crystals in the amorphous mass, which accordingly presented an example of a transition to basalt. A conglomerate also occurs here, composed of fragments of stratified rock, and forming a kind of pudding-stone. The clay-slate, which, in combination with the sandstone, is the chief rock observable on the surface east of Yalta, and the limestone which appears west of the same place, generally occurring beneath the stratified rock, are both visible at this spot beside each other, though there is a predominance of the first-mentioned rock.

The ground to the east of Aiou Dagħ is also perfectly different from that which we had observed on the opposite side of the mountain. Independently of the fact that even more violent and powerful irruptions of subterranean rock have occurred here, yet the escarpment (*i. e.* the ridge of the coast-range) has burst open at different spots, and thereby occasioned a greater number of valleys and ravines than occur west of Aiou Dagħ, where there is only one actual ravine, at Yalta. In one spot a mass of rock two and

a half English miles in diameter has entirely separated from the previous surface of the ground, and been elevated 1000 feet higher than the present level of the range. There it still remains, forming at the present day the highest mountain in the Crimea, namely, the Tchadir Dagħ or Tent Mountain. There is no encircling rock here, as so frequently occurs on the Caucasus. The subterranean rock is distinctly visible on three sides. The Tchadir Dagħ at its summit forms a tolerably level surface, descending precipitously in every direction : a valley-like ravine, which is most apparent towards the north and south, surrounds the base of the mountain.

The most considerable eruption next to this occurs in the neighbourhood of Aloushta, therefore south and in a line with Tchadir Dagħ. From this point eastwards the subterranean forces have been far less powerful, not only exhibiting no other eruptions of the plutonic rock, but the sudden disappearance of the clay slate, which is replaced by Jura limestone. This rock covers the ridge of the mountain range as well as the narrow strip of sea-coast from this point. I did not travel over the whole distance between Aloushta and Theodosia, but, by what I was told, as well as by the accounts of the active-minded Dubois de Montpéreux and of Prince Anatol Demidoff, with his scientific assistants, no more eruptions are visible five

miles eastward of Aloushta. The mountain range consequently does not afterwards present a northern elevated escarpment, but a height of nearly equal elevation on either side. This is proved naturally by the southern base of the range no longer consisting of a different rock that had been originally situated at a lower level, but of the same limestone of which the ridge is composed: the height also of the eastern portion of the Crimean coast-range is, on an average, less, in the centre scarcely amounting to 2000 feet. The whole range, by this great break in the escarpment to which we have just alluded, as well as by the elevation of the Tchadir Dag, has thus been divided into two natural halves. The high road from Aloushta to Simferopol leads close beside Tchadir Dag, through the valley-like ravine thereby formed, its highest point being about 2500 feet above the level of the Black Sea.

The Tartars also distinguish the natural division of the coast-range into an eastern and western half, and it had a still greater significance with them long ago. I was told that walls were formerly erected on the Bear Mountain to intercept the narrow pass, but there are no traces of them now. Whenever a new race, during the period of the migration of nations, made their appearance on the plains of the North Caucasus, and pressed forward in obedience to an innate love

of wandering, or from the ambition of their leader and the love of plunder in the rest of the community, finally inundating the northern plains of the Taurian peninsula, a certain number of its earlier inhabitants fled into the more inaccessible western portion of the southern mountain range, while the eastern portion was in general invested at a very early period by the conquerors. Some of the original inhabitants of the west and east took refuge in their ships, and sought a new fatherland on the opposite coasts of the Black Sea. The nation which had settled on the steppe had usually no desire to pursue the fugitives into these inaccessible valleys, and preferred forming ties of friendship at greater leisure. It was very rarely that they attempted to extend their dominion as far as the western coast. The only tolerable road to the Black Sea in ancient times was in the same position as the present high road between Simferopol and Aloushta. There is no doubt that this road was very early taken by the Scythians at the time they were desirous of subduing the Cimmerians, who had fled to the mountains.

The commercial Greeks of Asia Minor, at a later period, planted colonies on the coast, and transferred the Grecian element to this remote region, about which they told the most terrific tales in order to deter their countrymen from similar undertakings. Among other things they reported that Helios, with

his chariot of the Sun, was never seen there, but that a purple darkness incessantly covered the face of the earth. Cimmerian darkness became a proverbial word among the Greeks.

It is not my purpose to recount by name the various races who entered the Crimea at a later period, especially at the commencement of our era, and who have since disappeared without leaving a trace behind. I will only mention one of the last immigrations. The Greeks, under the Byzantine dominion, seem to have once more colonised the southern coast; but when the Genoese afterwards by degrees acquired greater influence on the eastern half of the coast, and one town after another fell under their control, the former retreated, with the remains of the Goths, to the still more inaccessible western portion of the peninsula, where they remained tolerably undisturbed until the supremacy of the Turks was acknowledged by the Tartar Khan: their principal strongholds and fortresses were also afterwards conquered by the Turks, and the whole population were compelled to adopt Islamism, or be massacred. After this period the remainder of the previous inhabitants of these inaccessible valleys, now Mahometans, partially recovered their former independence, and seem to have been more closely allied with the Turks than with the Tartars. They had adopted the language of the Turkish Osmanlis, to-

gether with the religion of Islam. This is evident by the names of places, rivers, and mountains, which are not derived from the Tartar dialect, but from the language spoken in Constantinople. The case is totally reversed with respect to the inhabitants of the eastern half of the range, who continued in close connexion with the Tartars of the northern plains, and who had even permitted some admixture of the races. In time also they had adopted their dialect. This, from its hardness, is extremely different from what is spoken in Constantinople, but is now elevated to be their written language: it bears a closer resemblance to that which is used by the Noghais on the Kuban river, and even by the Kumucks and Truchmenes to the west of the Caspian Sea.

I will confirm this assertion by a few examples. In the Turkish written language flowing water is usually expressed by the term "Su," *i. e.* water, together with an affix by which it is more precisely designated. This is also the case on the western half of the southern coast. For example, the name of one small stream is Souk Su, *i. e.* cold water; of another Kara Su, *i. e.* black or sluggish water. On the other hand, the term "Usên" is employed to designate this in the eastern half of the Crimean range, as well as on the eastern extremity of the Caucasus, and, if I am not mistaken, also beyond the Caspian Sea. The Turks

of Constantinople use the word "Boyuk" (pronounced *Biyuk* on the western half of the coast) as an equivalent for "Great;" on the other hand, the Tartars on the north-eastern portion of the Caucasus, and in some parts of the eastern half of the southern coast, call it "Ulu." A village by the latter is called "Aul" (pronounced as if it had two syllables); by the former, on the other hand, "Koi," and near Constantinople also "Tchôi."

We soon accomplished the short distance between Great Lambat and Aloushta, not more than thirteen and a half versts (about ten English miles). Aloushta somewhat resembles Yalta in point of situation, and, were it not for the remoteness of the principal and largest properties, *e. g.* Aloupka, Orianda, and Livadia, would in all respects be better calculated to form a central point for the inhabitants of the southern coast than Yalta. Like this last it is situated on a plain which is only a few feet above the level of the sea, but embraces a far greater circumference. The valley-like ravine, also, to which I have so often alluded, cutting across the whole mountain range, is not so confined as the one at Yalta, and might therefore, without difficulty, have been used as a convenient road, which in the former case would have been impossible.

The ancient Greeks had not then recognised the importance of the situation of Aloushta. The scanty

vegetation of this strip of coast no doubt induced these early colonists to settle at the extremities of the mountain range, whence they were able to communicate with greater facility with the inhabitants of the plain. The place was first brought into notice by the Byzantines, and the fortress of Aloushta was built as early as the time of Justinian. It could not have been a place of small importance after that period, for traces of masonry may be found in all directions, and in a tolerably wide circumference. There was a settlement of Tartars on the same spot at a later period, who rather promoted the destruction of the ruins than employed them for their slight habitations. Three towers in tolerable preservation still exist, which, strange to say, are each different in form. One is circular, another quadrangular, and the third hexagonal, but all three are distinguished by the thickness of their walls, nearly a fathom across.

The neighbourhood of Aloushta is particularly inviting. The houses of the town do not lean against the hill, as usually occurs in Tartar villages, and consequently are not partially buried in the ground, but stand independent, forming rather narrow, crooked streets. The inhabitants are remarkable for their industrious habits, and chiefly occupy themselves in the culture of the vine and fruit-trees. The immediate neighbourhood seemed a perfect garden, whose ver-

dant foliage formed a pleasing contrast to the barren groups both far and near. The wine here produced, although by no means receiving the same degree of attention as on the larger properties of the nobility, is said to be excellent, and is generally sold with the appellation of "countly" attached to it. We may form some notion of the extent and importance of the cultivation of the vine at this spot when we learn that about a million of vines are requisite to supply the grapes from which the wine is produced. It did not seem to be the custom here to export the best qualities and retain the worst for home consumption, since at the inn, which, though imposing by its exterior appearance, was in most respects very indifferent in accommodation, we were presented with wine of a quality such as hitherto we had hardly been able to obtain at any price.

The sun had descended into the sea when we once more started in our small post-carriages to recross the mountain range, and we bade adieu for ever to the beautiful southern coast. We drove up the ravine of which I have already given a more minute description, upon the high road, which, as we before remarked, was constructed through the taste and skill of Major Frömbder. We had travelled in a north-easterly direction between Yalta and the Bear Mountain, but since then almost due north,

and we now turned north-north-west in the direction of Simferopol.

The higher we ascended so much the colder became the wind, and we wrapped our cloaks around us, fearing its effects, for hitherto, in spite of freely indulging in the fruit of the southern coast, we had kept free from the so-called Crimean fever, a kind of ague or intermittent fever. It is very common on the southern coast, but does not assume a serious aspect, and, except in name, bears no resemblance to the fever on the eastern coast of the Black Sea, which is not unfrequently fatal at the first attack. We often looked back towards the sea, but, unfortunately, it soon became dark, and consequently all distant prospect was excluded. Happily the moon soon rose above the horizon, and gave us the benefit of her borrowed light for our night journey. A monument to the memory of General Kutussoff stands close to the road, and on the highest point, beside a spring not far from this last, an obelisk marks the spot where the late Emperor Alexander is said to have enjoyed the glorious prospect of the southern coast, and far over the extensive sea.

Unfortunately we were compelled to renounce this pleasure, and also sought in vain for the ruins of the Iron Gate, said to have been erected by the former inhabitants of the southern coast as a protection against

inroads from the north. We must not, however, really credit the notion that an iron gate actually did exist upon this spot. The name Demirkapu, which stands for this in Turkish, is generally understood, in countries where the Turkish dialect is spoken, merely to mean that there is a mountain pass at the spot so designated. The term Demirkapu is frequently used throughout the East, especially in the northern districts of Asia Minor as far as the Caspian Sea. The Persians, in place of this term, use the word Derbend, though not in quite such a general sense, but rather for an actual narrow pass.

At length we crossed the ridge of the mountain range, which, as I have already said, rises to the height of 2500 feet above the level of the Black Sea, and soon afterwards reached the station of Taushan (or, Tafshan) Basar, *i. e.* Hare Market. Our landlord was again a German, and willingly offered us all that his kitchen and cellar could afford. When high prices are demanded by those dependent on the profits of an inn in such remote districts, we must bear in mind that all articles of food are necessarily more expensive in such places, and that the number of strangers who frequent these roads and consume anything is very small: we therefore were willing to pay well, as the cookery of all that was offered us was excellent.

The following morning we proceeded by Mahmud

Sultan to Simferopol, altogether nine-and-twenty versts, eighteen English miles, distant. The Tent Mountain on our left hand was a very beautiful object ; neither its summit nor precipitous sides were clothed with wood, but I observed some copse-wood shrubs, chiefly consisting of oak, in some parts of the ravine by which it is surrounded, as well as on the elevations of the crest. The northern declivity is very important in a geological point of view, as it is the only spot where plutonic rock and slate are exposed on the surface. This, however, can proceed from no other cause than simply because the northern escarpment had a very deep rent at this spot. At the same time it is incomprehensible to me that on the protrusion of the plutonic rock no greater disturbance was effected. We seek in vain for breccia, such as may be found in all directions on the southern coast, wherever subterranean rock has protruded. The utmost traces of the natural revolution which must at one time have occurred here is the presence of a conglomerate, which is found partially concealed at the base of Tchadir Dag, and elsewhere. It is composed of quartz, clay-slate, and sandstone, but most of it may be seen lying loosely about, in some places clearly exhibiting volcanic influence.

The river Salghir now flows on that side of the depression formed by the rent upon which we stood ;

it obtains its supply of water from most of the springs originating in the Tchadir Dag and its immediate neighbourhood, and flows through the centre of the peninsula till it at length pours into the sea. Whether owing to the small number of springs, or to the deficiency of water, in these mountains, the Salghir, after pursuing a course of twenty English miles, has so little water, that in the autumn, at any rate, its bed may be crossed almost without wetting the feet. We may also state the fact that no valley in the Crimea, of such a size, enjoys so much cultivation as that watered by the Salghir, and nowhere is the water that does exist so much employed. I have already more than once had occasion to notice favourably the activity and diligence of the Crim Tartars who have a fixed residence. All that I here observed made a still more favourable impression on my mind, as I had hitherto been in the habit of regarding Islamism as a type of indolence with respect to the cultivation of the land. The native abhorrence to labour in the Mahometan is not indeed so forcibly displayed in the Trans-Caucasian provinces, because there he is unable to derive advantages at the expense of his Christian neighbours; but in a Mahometan state, where he regards himself as lord and master, and the Christians and believers of other creeds as only bestowed by the Almighty to work for him, the adherent of the Koran, although

he may be in possession of some very valuable qualities, is no less intolerable from his indolence and sloth than from his beggarly pride.

The villages followed each other in rapid succession, and continued to present a most inviting aspect. The houses, however, were very different from those on the southern coast, because, resembling those in Baktchi Sarai, the roofs were not flat, but covered with tiles, and nearly rectangular. The orchards were in general immediately behind the houses, and their fresh, green appearance, the red roofs of the houses, and the slender but dazzling white minarets, presented a beautiful picture.

While the road between Aloushta and the crest of the range wound hither and thither, and was at the same time tolerably steep, the plain over which we drove after leaving Taushan Basar was so nearly level that the inclination was scarcely perceptible: this very gradual slope continues throughout the whole of the northern declivity of the Crimean range. As we approached Simferopol I again observed the rock which I had noticed during my previous tour to the north of the range, and a couple of hours before we reached the town the nummulitic limestone began to appear through which the Salghir at this place has cut its bed.

At Simferopol, in place of our two post-carriages, we were offered a calèche, which General Narishkin

had placed at our disposal. My postal certificate, however, stated that we had a post-carriage, and, to avoid any unpleasant interruptions to our journey, I went to the police with my friend from Tiflis, in order that the calèche might be inserted into the certificate. Unfortunately—or rather fortunately, for I might have been still more incommoded afterwards—I was asked for my passport, and obliged to confess that I had none. This was considered impossible, especially as I was in possession of an imperial postal certificate, as it was called (*krons-podoroshne*). The suspicion naturally arose that I had either obtained the latter by illegal means, or that I had given my passport to some fugitive Pole—the one thing was as bad as the other. The head of the police did not, however, venture to take any steps against me, as I alleged that I had been specially recommended by the Prussian to the Russian government, and he immediately recognised me as a foreigner. He, however, read out all those passages of the law which stated the conditions by which permission was given to enter the Russian dominions. I explained to him the whole circumstance—how all my baggage had long since been swallowed up in a ravine on the road between Erzeroum and Tiflis; that I was introduced and recommended to the government in Tiflis by the Russian embassy in Constantinople; and that, when I was asked for my pass-

port on my first entrance into the Russian dominions at Alexandropol, they had been perfectly satisfied with my deposition. I besides related that in Tiflis my scientific researches had been efficiently promoted in the most obliging manner; and for the purpose of furthering my views during the remainder of my travels through Trans-Caucasus, as well as on my journey home, I had been presented with a postal certificate, so as to give me the air of travelling by the express command of his Imperial Majesty. I, as a stranger, could not be aware that it was necessary to have a special Russian passport in addition to this postal certificate. All that had been read from the collection of laws referred to conditions imposed on those entering the country, but those passages of the law which gave information upon the conditions of quitting Russia were alone applicable to my case. The head of the police openly averred that no law existed on that point, for I was probably the first person who had ever travelled for nearly a year without a passport. Unfortunately, however, he could not allow me to depart before writing to Tiflis, and receiving from thence a confirmation of my statement. Under these circumstances I should certainly have had the pleasure of spending several more weeks in the Crimea.

The head of the police reported the whole affair to

the governor, and one circumstance alone saved me from further annoyance. I had despatched from Tiflis a report, in the form of a letter, to Baron von Humboldt, of my latter excursions to the shores of the Caspian Sea. This was printed in the 'Prussian Gazette,' and afterwards translated into the Russian journal the 'Invalid.' The number containing my report had fortunately reached Simferopol the previous day, and the governor, in order to assure himself of my identity, questioned me on several points of my journey, which were given with greater detail in the report. As my answers exactly coincided, he no longer doubted my being the same person, but he could not venture to take upon himself the responsibility of giving me a Russian passport. This might only be done in Odessa, where a Prussian consul resided. Although again without a passport, I rejoiced to escape with a whole skin from this very tiresome affair, and proceeded on my journey that afternoon in company with the same gentlemen I before mentioned.

The distance from Simferopol to Perekop, where the peninsula of the Crimea joins the continent, is 142 versts (about 95 English miles). If to this we add the distance from Simferopol to the coast of the Black Sea, therefore to Aloushta, which amounts to 44 versts (about 29 English miles), we obtain the greatest breadth of the Crimea, 186 versts, or 124 English

miles. The length from east to west, including the peninsula of Kertch in the east, is about 170 English miles, therefore about one-third more.

On leaving Simferopol the nummulitic limestone disappears, and is replaced by a still more recent tertiary limestone. This also gives place soon afterwards to the newest tertiary formations, the so-called steppe limestone, which, under the name of Kertch limestone, forms a ridge, though not a lofty one, near the town itself. After this point there is no longer any appearance of bare rock ; it is everywhere covered by soil, exhibiting very different amounts of thickness, which rests on the alluvium. A few miles from Simferopol the ground becomes so level that there is not even the slightest undulation. The same wearisome uniformity, without any interruption, continues the whole way to Perekop. We did not see a single village between the two towns, and the miserable appearance of the five post-stations formed hardly any break to the tiresome monotony of the scene. I will mention their names, as they are in general written falsely on the maps, although they have nothing further to recommend them to notice. Sarabouss, Trekablem, Aibar, Dyurmenek, and Yushun are situated 17, 24, 22, 24, and 21 versts apart. We did not even meet a single herd of cattle or flock of sheep, and human beings were only visible at the stations.

Travellers often compare these entire days of monotonous travelling to the sea, where there is nothing but the sky above and the water beneath ; but in the latter case the slightest wind occasions an uneven surface in the water, the ship is pursued by porpoises eager to snap up any scraps that may fall, and some variety is produced by other marine creatures ; while a plain like that in the north of the Crimea and in the south of Russia, in the autumn, presents a most dreary aspect, all vegetation having nearly disappeared, except the hoary kinds of Mugwort and white Horehound, and now and then perhaps a few Knapweeds. The beautiful blue autumnal sky which arched over us formed a disagreeable contrast with the greyish-black ground. The withered stalks, without a green or even dried-up leaf, and the cracks in the ground, could scarcely be called variety ; and the only idea it was possible to entertain was the constant and, even in this dreary wilderness, the grand image of eternity. In whichever direction we turned there was nothing to bound the view, not a single object to arrest the eye even for a moment.

Although the Crimea is now inhabited by only one-third of its former numbers, these plains exhibit somewhat more animation at other seasons of the year, and in the spring-time there is even a certain amount of activity and intercourse visible. The variegated

steppe is then traversed by thousands of sheep and cattle, which feed upon the herbs, at that season full of sap, and are led by shepherds and dogs.

The flocks of sheep are pursued by black and variegated starlings, who feed upon the vermin with which these wretched animals are infested, and hawks and eagles hover about these last, ready to pounce upon their prey. But there are traces of life besides these creatures, for both harmless and poisonous snakes bask in the sunshine, and lizards run amidst the plants in search of beetles and other insects on which they feed, and variegated butterflies flutter about the many-coloured flowers.

In the latter part of June the Tartars retire south with their flocks, and remain half July and until late in the year on the heights of the Crimean range, which affords fresher and more wholesome subsistence. In general they do not quit Yaila, *i. e.* the mountain meadows, before December, when they wander into the steppes, where meanwhile the buds of the herbs and grasses, after a suspension of several months, have slowly been developed, and offer scanty nourishment to the cattle.

Perekop has played an important part since very ancient times, when the place existed under another name. A wall with towers, which were carefully guarded against the invasions of the savage Scythians,

was built in a slanting direction across the isthmus by the civilised inhabitants of the Crimea ; it is not above two English miles and a half broad, and connects the peninsula with the main land. Perekop of the Tartars was unquestionably on the same site, but the isthmus is no longer intercepted by a wall, but by a deep ditch defended by towers. From this point the rapacious hordes of the Tartar Khan sallied forth with fire and sword against the Christians of the north. These predatory expeditions usually happened in the spring, and, at the conclusion of the rainy season, when there was sufficient nourishment for the horses on the wide and uninhabited steppes of New Russia of the present day, extended as far as Kiyoff (Kieff, Kiev) and Moscow. The road taken by the Tartars was marked by flames of fire, and thousands of wretched, innocent men were annually led into slavery ; the trade, alas ! being frequently carried on by Christians between the Tartar Khan and the Osmanlis.

The Perekop of the present day, usually marked on the map as a considerable fortress, has few claims upon our notice. Although still the chief town of a circle, the place is of no importance, and never will become so while the north and the Crimea obey one master. The following morning we proceeded on our journey, in order to reach Aleshki,

another capital of a circle, containing 4000 inhabitants, in as short a time as possible. The plain continues as before, though the ground and vegetation are different. The soil, which during the spring has at least some degree of fertility, is here replaced by sandy alluvium and occasionally marshy ground, and the Pampas form a substitute to the Steppe.

The road between Perekop and Aleshki is about 102 versts (68 English miles), and passes a few wretched villages on the road—Kalantchek, Bolshoi Kopan (great canal), and Kostogrivaya (the mound of bones), situated 33, 30, and 27 versts apart. We had come in a northerly direction from Simferopol to Perekop, with a very slight deviation towards the west, but now, between Perekop and Aleshki, had altered to a north-westerly course. The road between Kostogrivaya and Aleshki, a distance of 17 versts, crosses a sandy desert, through which our heavy carriages made but slow progress.

Aleshki is situated on an arm of the Dnjepr (not Dnieper, or even Dniper, as it is frequently marked on maps, as well as in geographical dictionaries), at this spot flowing from the east, and forming the northern boundary of the Taurian government. This last extends eastwards as far as the small river Berda, and, in the middle of the last century, formed the territory of Little Tartary. The larger population at that

period, of this small country of 25,520 English square miles, compared to what it is at present, is evident from the circumstance that 100,000 men could then be brought into the field. It is true that in its better days the hordes of Bundshak (between the Danube and the Dniester), of Yedisian (between the Dniester and the Dnjepr), and of Kuban, obeyed the Tartar khans, but at that time these districts mustered as large a number of men, so that the entire army of the mighty ruler consisted of between 200,000 and 250,000 men. We must, however, remember that every one able to bear arms took part in these predatory expeditions, for which reason the population was not perhaps so large as we might generally be willing to admit.

The whole of the Tartar population of the Crimea at the present day scarcely amounts to 60,000 souls, belonging to the horde of Dshemboiluk; these are also settled on the continental portion of the Taurian government, and there reckon 25,000 souls. The Russian government has done all in its power, since the territory has been included within its jurisdiction, to repopulate the deserted district, and the Emperor presented the land to different nobles of his kingdom, on condition that they should plant colonies upon their new possessions. The members of various sects were settled on the barren districts of the Taurian continent,

and some Germans, chiefly Anabaptists and Roman Catholics, took possession of the better part of the land: Greeks and Armenians also found a ready reception, and latterly the Jews have been settled here, though not to the advantage of the country. By this means Little Tartary has once more obtained a population which might in some degree approach in numbers that of the second half of the last century. I do not, however, believe that the present population can double its number, as the ground is not in a condition to maintain a million of human beings. Nothing but active trade between the north and south could restore a larger population to the Crimea and the continental portion of the Taurian government.

At Aleshki we entered a sailing-boat for the purpose of visiting the capital of the government of Kherson, situated on the northern side of the Dnjepr. It was with a feeling of deep interest that I embarked upon this river, so celebrated in the history of the middle ages, in order to pass from one arm to the other. The banks were unfortunately bordered by forests of reeds, which formed an impediment to all distant view. It was among these reeds, as I have already related at the beginning of this volume, that, above three centuries ago, the Saparogas, unquestionably the boldest and bravest of the Cossacks, concealed themselves during the day, in order to descend

the river by night in their miserable barks, and revenge themselves on the arch-enemies of Christendom for the injuries committed by these last in the west. The fortresses of Kinburn and Otchokoff (Oczakov), the last of which so long defied the Russian supremacy, and finally only yielded to the bravery of the deeply-injured Saparogas, both at one time so important, are now insignificant places. In the opposite direction, higher up the river, lies the small town of Bereslav, where, in the time of the Tartar rule, a chain was thrown slanting across the river, in order to restrain the movements of the predatory Cossacks.

All rivers of larger or smaller size, flowing through a steppe, and the Dnjepr among the number, are extremely sluggish, owing to their very slight fall, but towards the mouth divide into a number of branches, and finally pour into one of those large gulfs, which, before reaching the sea, receive the appellation of Liman from the Russians. The land enclosing the Dnjepr Liman to the south is alluvial, while an older littoral formation occurs on the northern side. This recent alluvial ground continues eastwards, and forms nearly half the entire Taurian government. The sea-sand, on which Aleshki is situated, is afterwards covered by clay, which becomes thicker as it passes east. This last probably rests on granite, which higher up forms the so-called Dnjepr rapids, and by

its horizontal position does not permit the rain-water to penetrate to any depth. The waters, however, accumulate still more abundantly in proportion to the quantity of sand, and, in order to find a spring, it is necessary to dig down as far as the clay. While water in the neighbourhood of Aleshki may be obtained at the depth of 10 or 20 feet, farther east it is necessary to dig to the depth of 80 or 100 feet before we find it, and yet even there the springs frequently furnish such a scanty supply that flocks of less than a hundred sheep can scarcely quench their thirst, and the water even at the very commencement of August is entirely absorbed.

At midday we halted at Kherson, and once more obtained an excellent meal at a German inn. Kherson is a very attractive-looking town, more like Mannheim and other modern towns in Germany than any other place I have seen in Russia. The streets are not quite as broad as usual, and are paved—a convenience possessed by very few among the larger cities in the interior of Russia. The hopes which were cherished at its foundation, and the origin of its very significant name, have not been fulfilled. Kherson flourished rapidly, but was soon surpassed by Odessa, and sank to an insignificant commercial city.

When I visited this spot on the 12th of January, 1838, in company with Prince Suworoff, we experienced

the most severe cold, the thermometer standing at 22°. We now enjoyed milder weather, and the same afternoon selected the best road to Nicolaev, which was 59 versta, about 39 English miles, distant, in the same north-westerly direction we had latterly pursued.

We resolved to stop at Nicolaev, as we were desirous to see the immense establishment for the Russian navigation of the Black Sea, where their men-of-war have hitherto been built and repaired. The town does not present such a pleasing aspect as Kherson. The streets are immensely broad, and we observed the same error as in other places, namely, that the height of the single-storied houses is quite disproportionate to the breadth of the streets. They have only one story besides the ground-floor, or perhaps not even this; and as the streets are unpaved, and the houses, without exception, surrounded on three sides by a court and garden, communication is rendered extremely difficult. There is, indeed, no trade or barter, and it therefore is comparatively a matter of indifference whether the inhabitants of Nicolaev spend a longer time in communicating with each other than is absolutely requisite. In addition to this, the largest proportion, especially of the male population, frequently spend more than half the year outside their actual habitations.

The town, during the first thirty, and even forty, years of its existence, exercised a far greater influence

than at present, since Sevastopol, in the Crimea, has acquired such importance. It served formerly as a winter residence for the entire equipment of the Russian navy in the Black Sea, and the whole staff, with the rear-admiral at its head, still reside in Nicolaev. Formerly all the men-of-war wintered near this place, on which account the sailors were also directed to make it their winter-quarters, which now, however, they generally fix in Sevastopol. Nicolaev is situated not far from the junction of the Ingoul with the Boug, which at this spot forms a Liman nearly three English miles in breadth, and between 35 and 40 miles long, thus enabling it to receive the whole of the fleet.

We first visited the professor of astronomy, Mr. Knorre, one of the kindest and most amiable of Russian philosophers, whose acquaintance I had made as early as the year 1838. After a careful survey of the observatory, under the guidance of the director, we next visited the arsenal. Here above a thousand men were at work on the necessary equipment of a fleet of 21 large vessels and 66 of various dimensions. The greatest activity and order prevailed everywhere, which must be an essential requisite in an establishment of this kind. Our guide, a pleasing young naval officer, showed us by degrees the various workshops and stores of all kinds of materials for shipping. I was particularly interested in the model of a line-of-

battle ship, in which everything, down to the minutest article, was exactly copied. We were told that the sails and ropes for this model had alone cost the sum of 6000 silver roubles. It is not my purpose to give a description of all we saw here, especially as I am too little acquainted with the requirements of such establishments to offer any opinion on the subject.

The following day, at a very early hour, we crossed the broad river Boug, in order, in as short a time as possible, to reach Odessa, nearly 70 miles distant in a south-westerly direction. We had been favoured with the most delightful weather ever since we left Orianda. The steppe between Nicolaev and Kherson continues on the other side of the Boug. Some Christian and Jewish settlers have replaced the Tartars of the horde of Yedisán, who, at the commencement of the second half of the last century, still inhabited these steppes. With respect to the soil, it was far more fertile than that in the steppe of Dshemboiluk, or the continental portion of the Taurian dominions, or even over the greater part of the Crimea peninsula. The vegetation had indeed long since lost its fresh aspect, but most of the white Horehound and different kinds of Mugwort which I disliked so much in the Crimea were here absent, and were replaced by Asters, Seneciones, and some of the Labiatae, which even now and then were still in blossom.

CHAPTER X.

ODESSA.

Unpleasant incidents on the journey — Business about a passport — Dr. Pseudo-Rosen — General Aglostiahof — Comparison between the colonies of Russia and those of England and North America — Odessa seen from the Steppe — Boulevard — Great flight of steps — Plague of 1838 — Statistics — The winds — Chuturs — The harbour and roadstead — Odessa a medium of communication with the interior — Commerce — Departure — Bessarabia — Lemberg — Cracow — Arrival at Jena.

It was late in the evening before we reached Odessa, and alighted at an inn in some measure corresponding with our wishes, though with but indifferent accommodation. We had been subjected to various delays at the post-houses; and had we not been in possession of the imperial postal certificate, which placed an unlimited number of horses at our disposal, we might have had to endure fresh annoyance. The calèche was not inserted in the postal certificate: consequently one postmaster after another began to consider that I might have obtained it by dishonourable means. Besides, we had none of us an order, or any

title or influential rank ; and yet I, a foreigner, had these important papers in my hands. They shook their heads, though not venturing to withhold that to which I had a right.

The postmasters hesitated most about the place where I was to quit the Russian territory, namely, Brody in Galicia ; and certainly a blunder had been committed in Tiflis, by inserting a non-Russian place in the postal certificate as the termination of my Russian journey ; besides, no one knew the exact situation of Brody. The postmasters, however, are strictly enjoined only to conduct travellers towards the place mentioned in the postal certificate. Therefore, before stepping into the calèche, we were always first questioned where Brody was situated, and in which direction the postilion should drive. We owe it to this ignorance that we have travelled over the whole of the Crimea with post-horses, though without possessing any actual claim to them. It was only once, when, after the lapse of several weeks, we revisited the same spot, that we were recognised by the postmaster, who said, very archly, that we had probably missed the road to Brody. He might have added that we had taken advantage of the ignorance of the postmaster to make a tour of pleasure. It is necessary in Russia, unless travelling in the service of the crown, to purchase permission to employ post-horses, and the sum is

regulated by the number of miles the traveller has in contemplation to traverse. Now, though I was regarded as travelling in the service of his Imperial Majesty, and although in Tiflis I had been presented gratis with a so-called crown-postal certificate, yet I ought not to have deviated from the travelling route laid down for me, and, inasmuch as I wished to make an additional pleasure-tour, I ought for this purpose to have obtained a special postal certificate.

My first object in Odessa was to obtain the mediation of the Prussian consul, in order that I might proceed on my journey provided with a Russian passport. It was fortunate that I knew him personally, and therefore could easily identify myself to him. A few days previous, however, an impostor had endeavoured to pass for my former travelling companion (Dr. Rosen, the present consul in Jerusalem), and to extort a considerable sum of money from the Prussian consulate. It had by chance been mentioned in one of the Russian journals that Dr. Rosen had parted company with me, and was on his road to Odessa, in order from thence to proceed to Constantinople, his new destination. The consulate was, in fact, directed to give us efficient aid, should we touch at Odessa during our journey. Dr. Pseudo-Rosen played his part so well, that he would have probably succeeded in his trick, had I not come to the rescue, for no doubt he heard of my arrival.

As may be imagined, in consequence of this, my first reception in the Prussian consulate was rather mysterious. Several people standing in the office spoke in whispers, and, observing that they occasionally cast stolen glances at me, I perceived that I was the subject of their secret conversation ; but for that very reason I could still less understand the unusually polite treatment of the head of the office. I was intentionally detained longer than seemed necessary, and several of those present came and went, as if something important was on their minds. At length, however, I was relieved from this uncomfortable confusion by the sudden appearance of the Consul, whose acquaintance I had formed in the year 1838, and with whom I had lived on terms of intimacy during my eight weeks' residence in Odessa. He looked at me keenly, but immediately welcomed me in the kindest manner, and I then learnt, to my great amusement, that hitherto I had been regarded as an impostor, and the false Dr. Rosen had been viewed as the true one. My dress, after such a long journey in uncivilized regions, was by no means suitable to a life of refinement, and also contributed to cast a false light on my appearance. Mr. Pseudo-Rosen was heard of no more, and all attempts to catch the impostor were fruitless.

The circumstances connected with my passport,

however, occasioned me much annoyance, for they even made up their minds at the Prussian consulate that I had misemployed my Russian passport, and had probably given it to some unfortunate Pole to enable him to escape. Here, as in Simferopol, it was considered utterly impossible that I could have travelled for a whole year in Russia without being provided with one. The head of the passport office thought it such an extraordinary circumstance, that he reported it to the military governor, Aglostisheff.

Fortunately I was personally acquainted with the latter during my first journey to the Caucasus, and in the year 1837 I spent some days in his hospitable house in Kutais, when he was governor of Imiritia, in Trans-Caucasus. He had known me as a scientific man, and was aware that I had no political objects in view; but nevertheless would not give orders that I should receive a passport till after the Prussian consul had given me effective support, and a sort of pledge for my conduct. Nevertheless such was the distrust evinced, that, even provided with this, it required some consideration in the head of the bureau to execute the commission, and he had more than one conference with his superior on the subject.

Odessa is a very singular town, where every nation is represented. In the variety of its population it resembles Tiflis, except that in the latter place there is

a larger concourse of people ; and from the greater publicity of oriental life, it is still more forced upon notice. The Asiatic element is also represented more fully in Tiflis ; whereas, at Odessa, there are a greater number of Europeans than Asiatics. Odessa is a Russian trading city, but it has so little of the Russian stamp about it, that it might be supposed to belong to any other nation. The number of actual Russian inhabitants bears no comparison with the Greeks, Italians, and Germans. The only Russians are the military population and host of officials ; but even among these last many are not Russians, but principally French and Germans.

Odessa is in possession of something from all parts of Europe. Externally, both in public life and in the opera and public buildings, it resembles a city in the south of Europe, and has a marked Italian character. The better kind of shops are in imitation of the French, but with less refinement and elegance, although their owners are Frenchmen, who chiefly deal in articles of luxury. The artisans, as almost everywhere in Russia, are Germans, and the markets are supplied principally with vegetables by the German gardeners from the neighbouring colonies. Although in social circles the French have been taken as a model, and their language is chiefly spoken in society, yet there is a certain tendency to adopt English manners. This is

especially the case in private society. The origin of this may be traced to the circumstance that Prince Woronzoff was educated in England, and continues to show a preference for English ways.

Odessa is frequently spoken of by Russians as the Florence of Russia. In several things it bears a remote resemblance to that town, but this must generally be said more in jest than in earnest, for in Odessa we seek in vain for that beauty which meets us at every step in Florence ; while what is chiefly apparent in the former place is an air of novelty, and an endeavour for artistic embellishment, though not its purity. As we have already said, Odessa has somewhat the aspect of an Italian city, principally on account of the flat roofs of the houses ; but the wide streets, and composed manner of its inhabitants, remind one too forcibly of Russia. In one respect the Italians and Russians bear a closer resemblance to each other than other nations, namely, in their want of cleanliness, especially among the lower classes. The Russian inns are, if possible, worse than those in Italy. It is nearly as difficult to find a clean, tidy room, with cleanly beds, in Italy as in Russia. Even in the hotels of St. Petersburg, Moscow, and Odessa, leather mattresses and pillows are given, without any covering of linen. If they are to be had, it is necessary to pay a tolerable sum for their use : a silver rouble is the common

price. The Russian is so habituated when travelling to carry along with him his entire bedding, as well as washing apparatus and contrivance for making tea, that he makes no exception, even in the larger towns, where such things ought, and probably might be obtained. If a foreigner, unaware of this, does not conform to the usual custom, and becomes indignant and impatient, he only receives a contemptuous shrug of the shoulders for his ignorance of the habits of the country.

The Russians, in their attempts at colonization, stand in direct opposition to the habits of all other nations, especially of England and America. These two nations, the greatest colonizers in the world, when they settle in ever so remote a corner of the globe, first consider how soon they can make their new residence as comfortable as possible, and next endeavour to facilitate the communication between themselves and their countrymen in the neighbourhood. The first thing, therefore, requisite for this purpose, is to construct roads and to build inns; if the population increases, other mediums of communication will quickly follow; and frequently in the course of twenty or thirty years the previous wilderness has disappeared. The Russian, however, adopts a very different course; he is much less impressed with the necessity of attaching himself to his fellow-creatures, and is only con-

cerned about the ground which has been assigned to himself; whether others, to whom he is otherwise indifferent, approach him, or become in any way connected, is a matter of little consequence to him. The Russian has not even resigned this indifference to strangers in a city like Odessa, which has risen so rapidly that it now contains nearly 100,000 inhabitants.

Though Odessa may possess many beauties, and there may be much for the stranger to admire, yet no one will be easily inclined to feel at home in this great city, for it is entirely deficient in comfort. Even the Turkish cities of Constantinople and Smyrna, independent of their charming situation, are far more attractive to Europeans than Odessa. This would seem to be in direct opposition to the luxurious habits of the more wealthy inhabitants; there is, however, a greater display of Oriental splendour than of comfort, which in no country in Europe is carried to such perfection as in England.

It is scarcely credible that a town which is actually only dependent on the interior provinces, and has grown rich by their productions, has done nothing to facilitate communication with the poorer inhabitants of New Russia and Bessarabia. So far as I know, the streets in Odessa, up to the present day, are only macadamized, but not paved, and even this ceases on

passing the barriers of the town. As long as it is fine weather, and the ground is dry, it is all very well, as it is easy to make rapid progress over the endless steppes. But woe betide the traveller who in a worse season is compelled to travel inland amidst rain and wind! he may be detained for days together by those bottomless roads. It is well if he is not already spoilt, and will employ the "Telega," that light and easy post-carriage without seats, since heavy coaches, or a calèche, would advance but slowly.

Arriving at Odessa from the steppe, as in our case, it is scarcely possible to trust the senses, when the rows of splendid houses, whose outline becomes constantly more distinct, gradually rise to view, and, after having seen nothing for a length of time but sky and steppe, we suddenly behold the busy scene in all its magnificence. Odessa is situated high upon a hill, which descends rather abruptly, and principally towards the sea. Millions of shells, of which the steppe limestone is composed, are here consolidated into a tolerably solid rock, on which wooden barracks are erected, beside splendid palaces. It is to be regretted that, notwithstanding the clear autumnal atmosphere, a grey mist spreads over the city in consequence of the quantity of dust, and never affords a clear prospect. This mist consists of the finest particles of the steppe limestone, and has a still more unpleasant effect, as it

is extremely injurious to the eyes, especially to those of strangers, frequently producing serious inflammation.

Hitherto I have said little in favour of this Russian Florence, though I have admitted that the town possesses much which must be acknowledged even by those who are anti-Russian. It has a pleasing aspect, both in the interior as well as from the outside. In the direction of the sea it is particularly ornamented by a row of splendid houses and palaces, which would do honour to the finest city. Prince Woronzoff, and the principal government officers and wealthy merchants, reside in this part of the town. A handsome walk, planted with trees in the form of an avenue, occupies a considerable space between this row of houses and the ridge of the hill, where it descends somewhat precipitously ; so that, especially on beautiful autumnal evenings, hundreds of pedestrians enjoy the pleasant and refreshing sea air, and the prospect of the wide sea, that faithful image of eternity. This walk on the raised beach is called the boulevard, and nearly in the centre it widens in the form of a crescent ; here stands a statue of the Duke de Richelieu, a man who has been of great service to the city. A better spot could not have been selected for the statue ; which, turning towards the sea, through which the hero gained that reputation already anticipated by himself, is surrounded by splendid buildings.

A flight of steps, unequalled in magnificence, leads down the declivity to the shore and harbour. It is about 200 feet broad, which, however, appears disproportionate to the height of 80 feet; had it been somewhat narrower, it would unquestionably have had a grander appearance. The blocks of stone of which the steps are composed are supported by enormous vaults, and the space is open for traffic. Though many parts of this wide-spread city are still and inanimate, a most active scene is here presented—hundreds of waggons constantly fetching goods, a smaller number carrying them away, and thousands of men occupied in re-establishing communication between the west and east of Europe.

A ravine, which might be employed with advantage for the embellishment of the city, separates the boulevard on the south from another quarter, which is only partially known to the public. Here stood the Turkish fortress, Hadshi Bey, which was seized by Admiral Ribas in the year 1774, and soon after rebuilt as Odessa. It was believed in St. Petersburg that it was the site of the ancient city of Odessus; consequently this, the oldest part of the town, contains the citadel and the hospital, and is the so-called plague-quarter of the city. It was not without shuddering that I once more stood upon the spot where, during my first visit to Odessa, in January, 1838, I had had an opportunity

of witnessing the plague, with all its horrors, from a nearer point of view. At that time I more than once accompanied Prince Woronzoff on his visits of inspection, and beheld many of the unfortunate wretches who had been seized by that frightful disease, few of whom recovered their former health. I then saw with my own eyes how the bodies of those who had died of the plague were thrown into pits with quicklime. It was only owing to the energy and self-sacrificing care of the Prince that the plague did not spread still farther during those perilous days, and thereby occasion greater misery. It was a singular coincidence that, simultaneously with the plague, the town sustained a shock from an earthquake, though happily it only lasted a few seconds, and for that reason (in the town at least) did very little damage. Odessa, so far as I am aware, has only twice been visited by the plague, in the years 1812 and 1838. On its first visit, notwithstanding the far smaller population, 2000 souls were destroyed; but by the prompt measures of the Prince, only 123 died in 1838.

Although the boulevard with the flight of steps undoubtedly forms the finest portion of the city, yet there is much to admire in other quarters. I was always much struck with the so-called Colonnades, as the style in which they are built is in agreeable harmony with the surrounding buildings. The

Opera-House, Richelieu Lyceum, Hospital, Barracks, Orphan-Asylum, the palace of the late Baron Ettling, and several other buildings, deserve notice. Although the contrast of wretched huts beside splendid palaces is not so striking in Odessa as in Turkish cities, *e. g.* in Constantinople, yet, wherever houses stand close beside each other, the difference is very evident, some of them rivalling similar buildings in the capitals of Europe in magnificence and elegance, while others would not even satisfy the most modest expectations of the inmates of a country town.

Odessa, since the period of my second visit, has by all accounts continued to enlarge. In 1838 there were about 2500 houses, containing above 50,000 inhabitants; six years later, in 1844, the population had risen to above 60,000, and now, ten years afterwards, it is said to contain above 90,000, and, according to others, 100,000 inhabitants. We shall soon see whether the present military preparations will prove an obstacle to this rapid increase. We have repeatedly seen wealthy cities which had formerly been obscured by other towns, in their turn cast them as rapidly into the shade.

Odessa has eight public squares. It is possible that at some future time, when surrounded by handsome buildings, they may make an agreeable impression, and not, as now, present the picture of a dreary

wilderness. At present the churches, with steeples only partially erected, do not please the eye. I was told that more than ten years ago there were above sixty streets and twenty-eight churches. The town has two suburbs, one of which is at the foot of the hill: besides this, twelve villages are included in Odessa. A simple wall surrounds the actual city, rather as a preventive to fraud in payment of the tolls than as a means of defence. Nevertheless it has latterly been called a fortified city, and probably, since the threatening aspect of the war, a number of towers and other fortifications may have been added to the citadel. With respect to this, no doubt the security of the harbour has received most attention.

This harbour claims but a very moderate reputation. It has indeed a convenient entrance, and could not have better anchorage, but yet it does not seem to have sufficient depth for vessels of large tonnage. One great defect, besides, is, that it is too open, and more or less exposed to the two most dangerous winds upon this coast, which blow from the south and the south-east. They are uncommonly violent during the equinox, and are the chief cause of the havoc committed in the Black Sea, when thousands of vessels are wrecked. The three great rivers, the Boug, Dniester, and Danube, also bring large masses of water to the sea from opposite points of the compass ; and if a south or south-

east wind is blowing, produce the so-called hacking waves. Woe betide the ship exposed to their destructive influence! It not unfrequently happens that an enormous wave, which has already traversed the whole breadth of the Black Sea, whirls into the middle of the harbour, dashing over the vessels stationed within. I was told by persons on whose veracity I could depend, and who lived on the boulevard, that they had often witnessed these waves pour into the harbour, and that it was impossible to describe the roar and crashing which they produced. It has even happened that vessels which had not run into either of the safe harbours have been dragged from their anchorage by the retreating waters, and driven into the open sea, there to encounter another of these billows. It is not difficult to imagine that, under such circumstances, the vessel must be almost hopelessly lost.

These dangerous winds do not frequently occur in the summer, for the north wind blows almost without intermission at that season. Though less injurious to the vessels, it is extremely unpleasant to the inhabitants of the town, since, especially during the hot days of July and August, it brings the dust from the parched, and I might add burnt-up, Pampas and Steppe, occasioning insufferable heat, which is only slightly diminished in the evening. It is on account of this circumstance that the town is not so healthy as

it would otherwise appear by its elevated position, and consequently all that are able to do so leave their town-houses at this season and retire to their villas (chutor), which are frequently situated at some little distance from Odessa, and are either private property or are rented. The surrounding neighbourhood, especially towards the south, is much improved by these country-seats, especially as the first care of the owner of such a chutor is to obtain a shady and cool retreat. The government gives great encouragement to efforts of this kind, and has been itself at much expense in planting avenues, groves, and brushwood. At the commencement, as may naturally be supposed, in a district totally devoid of wood, it was an exceedingly difficult matter, as the seeds that were first sown generally more or less failed; but now that there are some woods, though ever so small, they are far more easily increased. In this respect much aid has been received from the Botanic Garden, which for a long time was under the direction of the accomplished Professor von Nordmann.

But I must return to the description of the harbour. Everything that is possible has been done on the part of government to render the adverse south and south-east winds less destructive. Two moles, dividing the whole bay into three parts, have counteracted their most injurious effects, at least within the actual har-

bour. These moles push far out into the sea, and have each a battery for defence at their extremities. That to the north has lately received the appellation of Shegaleff, and was defended with much skill and dexterity against the attacks of the western powers : there is a lighthouse close to the southern battery, which enables vessels to enter safely at night into the roads.

The central portion of the harbour forms a roadstead, with the so-called Quarantine Bay to the right (southward), and the proper military or pratique harbour on the left (northward). Every non-Russian vessel, even though not coming from a suspected place, is sent to the former harbour, and special limits are assigned for those who have to undergo quarantine. The citadel is situated high upon the beach immediately above this harbour, and the captains of vessels must beware of transgressing the boundaries of the space allotted to them without permission, or their ship would soon be shot to pieces.

The harbour to the north is far smaller, but better secured from dangerous winds. It is called the pratique harbour, since the sailors when there are allowed to do what they please (*in libera pratica*), that is to say, they may leave it if they like. It seems of late to have been intended to receive men-of-war and the ten guard-ships, and to have been closed to all others, even to Russian captains. These ten guard-ships

exercise control over Russian vessels, and decide into which of the harbours they should be allowed to run.

Odessa is the medium of communication for the interior of Bessarabia, New Russia, and even some of the central provinces of Russia, such as Podolia, Volhynia, and the Ukraine. Raw products are chiefly bought here, but, from the well-known embargoes on the importation of foreign manufactures, very few objects are introduced. These last, besides, are rather intended to benefit the town itself, which, as we know, is a free port, than the interior of the country. Odessa, for this reason, although a Russian town, has but very few Russian productions: all, except the raw products, have been supplied by other European countries. The annual export produces a circulation of more than forty million silver roubles, consequently twice or three times as much as the import.

The principal goods exported are corn (chiefly rye), tallow, and wool. Most of the first proceeds from the Ukraine, Podolia, and Bessarabia, and both the latter are obtained from New Russia: the tallow is chiefly purchased by the English, who use it for machinery. It consists mainly of fat prepared from flesh. On account of the small consumption of animal food in the above-mentioned provinces of Russia, the latter is sold at such a low price that most of it is thrown into reservoirs of water, which are pecu-

liarily prepared for the purpose, and there converted into tallow. The wool is of inferior quality, and costs much the same price as that imported from New Holland. The expectations formerly entertained for New Russia from the breeding of sheep have not been realized: the merino sheep, brought from Germany at great expense, have gradually died out, and have been replaced by the steppe sheep.

The number of vessels which annually enter this port has latterly amounted to 1500, and continues to increase.

I only remained in Odessa for a few days, as the town was well known to me of old by my visit to it in the beginning of 1838, when I spent eight very happy weeks, in spite of plague and earthquake. My present short visit sufficed to refresh my memory, and to enable me to seek out my old acquaintance, for I was very impatient to reach home and all dear to me there. I pushed forwards rapidly to Tirasopol, thence to Bender, a fortress which has acquired celebrity by the daring expedition of Charles XII., and entered Bessarabia, which is separated from New Russia by the Dniester. This fertile province, that portion of it at least north-west of the sea, has justified the high anticipations entertained respecting it, for I everywhere observed cultivated fields and rich meadows; and if these could enjoy the benefit of some agricultural improvement, they

would in a short time produce twice and three times as much as at the present day. I at length quitted the vast Russian empire at Novo-Selitzza and entered the Bukovina, where we once more found customs and manners somewhat more akin to those at home. A German post-carriage first reminded me of my dear fatherland. I travelled by Tchernowitz to Lemberg in very pleasant company, and remained there for a couple of days, after which I proceeded to Cracow, the former residence of the once celebrated kings of Poland, many of whom lie buried there. Cracow, at a later period, became a free city, though it only for a short time dreamt of freedom, but never enjoyed it in reality. Thence, passing through Breslau, Dresden, and Leipzig, I hastened to Jena, which at that time was my residence, and arrived there, after many dangers, many sacrifices, and much toil, on the 20th of October, 1844.

SUPPLEMENT.

I.

CLIMATE AND VEGETATION OF THE SOUTHERN COAST
OF THE CRIMEA.

Geographical position — Summer — Spring — Autumn — Winter
— Peculiarities in the vegetation — Foreign and indigenous
plants.

IN considering the climate of the Crimea, we observe many peculiarities which have not hitherto received sufficient explanation. The southern coast lies between the 44th and 45th degrees of north latitude, about the same distance from the equator as northern Italy, *e. g.* Genoa and Venice. The Crimea is likewise a peninsula, with a maritime climate; and although the northern plains are exposed to the keen winds of eastern Europe, the southern coast is completely protected by a range of mountains 4000 feet high. There is a prevalence of west winds, but otherwise the wind blows from the south. From these circumstances we might expect to find a mild climate, equivalent to that of the north of Italy.

The climate, however, is generally severe, and cannot even be compared with that of Milan, which is situated one degree farther north; but it has much in

common with the climate of the north of France, exhibiting at the same time many peculiarities, and differing from it in almost as many respects as it agrees with it in others. If we principally dwell on the vegetation, we might rather compare it with England, at least that part of it situated six to eight degrees farther north than the Crimea, which has a completely maritime climate.

As far as I am aware, regular meteoric observations have not yet been made, so that exact annual and monthly variations in degrees of temperature cannot be determined. The summer is generally hot. From May to August there is an average heat of from 17 to 20 degrees R. (70° to 77° F.) The usually bare face of the precipice, and the masses of loose rock on the declivities, considerably increase the heat by day. The heated air ascends, and is replaced by an influx of wind from the sea. During the summer months the so-called brizes, or sea-winds, are prevalent in the daytime. At sunset there is a calm, which usually lasts during the night. This is the principal cause why there is such a slight fall of the temperature at night, which sometimes even rises higher than by day. The greatest heat which Mr. Rögner once observed in July was 27 degrees Réaumur; while, in general, the thermometer on the hottest days was not above 24 degrees. The heat is still more felt, as at this season rain is of very rare occurrence. Strange to say, dew is seldom to be seen on the south coast, and in some places has never been observed. Although the mountain-range on the

shore only attains an average height of 4000 feet, the Yaila, that is to say, the meadows of the ridge, are extraordinarily cold, as here the north-east winds from Siberia cause their influence to be felt. While in summer the heat on the coast, even at a height of from 500 to 800 feet, is very seldom below 17 degrees R., on the Yaila, 10 and 12, even 7 degrees, is no uncommon phenomenon.

The southern coast has properly speaking no autumn, but, as we may say, a double spring, if our idea of that season is revived vegetation. The true spring agrees with ours in time, and sometimes lasts from the beginning or middle of April to the middle of June, or more frequently begins in March and ends in May; it is not, as with us, the finest season of the year, but is subject here to the greatest variability. The south coast has this peculiarity in common with many countries of the East. There is often particularly fine weather in the early part of March, and the vegetation begins to develop itself luxuriantly, when in April there is a sudden spell of cool, or even cold weather, the thermometer falling below zero, and it seems as if it were only now the beginning of winter.

The late autumn offers far more attractions; it is indeed a second spring. Some of the shrubs, and even trees, push out fresh leaves, and exhibit renewed verdure. Towards the end of August there is in general a diminution of the heat, and autumn days begin, rain alternating with wind and fine weather. Near the equinox the wind becomes stormy, and not unfrequently

increases to a hurricane, causing fearful devastation. At this season there is a great amount of rain ; the ground, which up to the beginning of September has been arid and thoroughly parched, greedily drinks in the plentiful moisture, and springs which have been dry since August begin once more to flow.

If it be true, as I was told, that the rain continues till the 3rd or 6th of October, the sky at that time suddenly clears up, and the finest weather of the whole year begins. During the second half of October, and especially November and December, which is often such a disagreeable season in Germany, it appears to be particularly pleasant on the south coast of the Crimea, where the plants especially seem to exhibit renewed life. This invariable fine weather lasts till the latter part of December, and frequently till the new year.

From that time wind and rain alternate with sunshine. The thermometer ranges from 2 to 6 degrees of heat, sometimes falling below zero, but also mounting up to 10 degrees. The rain sometimes changes into snow, which, however, hardly lasts longer than an hour, and generally melts as it falls. Towards the end of February, or beginning of March, there is a greater influx of cold, and the thermometer not unfrequently sinks to 10 and 12 degrees below the freezing-point (7° F.). But in the middle of March it often once more becomes fine, though perhaps cold, and keeps steady for a week or more. At the equinox there is another change, usually accompanied by a diminution of the temperature, the mercury falling to 3 degrees R.

Between the end of January and middle of April, however, there are frequently great deviations from the rule I have laid down. There have been years when, in February, there was scarcely 2 degrees of cold, and the winter was over. This state of things put me forcibly in mind of the climate of Tiflis, where I spent the winters of 1836-7 and 1843-4. The 20th of January, 1837, during a hunting expedition in the neighbourhood of Tiflis, I passed the night in the open air, though unprovided with any very warm clothing. It was the most beautiful weather; the almond-trees just beginning to blossom, which on the 10th of February were in full flower. In the middle of April, however, it was again so cold that it was impossible to venture forth without an overcoat. On the southern coast of the Crimea, in 1843, we had fine weather till the 17th of March, the thermometer not having once reached the freezing-point. In January we had 15, in February $13\frac{1}{4}$ degrees of heat. The cold commenced suddenly on the 18th of March, and on the 21st reached 10 degrees. On the 29th of March the mild weather returned, and during the early part of April the thermometer rose to 16 degrees of heat. In the year 1844, when I was on the southern coast, the winter was on the whole milder; yet on the 11th of April the mercury fell to + 1 degree, and on the 13th of the same month to - 3 degrees. In the year 1840 there were 8 degrees of cold at Easter.

It may well be supposed that so variable a climate must have an unfavourable influence on vegetation.

Many shrubs and trees flourishing in the open air in England can scarcely grow, or very poorly, on the southern coast. But there are peculiar features here which are particularly interesting. Although Orange-trees, even when protected, are usually killed by frost, and the Myrtle can scarcely live in the open air, a date palm (*Phoenix dactylifera*, L.), with some protection, has stood seven years in the open air, although this same species can no longer live at Smyrna, where it flourished in the time of the Greeks. It is remarkable, on the other hand, that Azaleas and Rhododendrons, which grow readily with us, cannot stand the open air on the south coast. Our Juniper offers the strangest appearance, as it will neither grow from cuttings or seeds above three or four years, and after a severe winter is destroyed.

All trees in the Crimea have a tendency to become shrubby, and plants in general are not so tall as with us. Even the maple on the southern coast only attains an average height of from 12 to 16 feet. Shrubs with perennial leaves generally grow from September till the new year, and for the most part, during the summer months, actually cease their growth. Others, similar to our shrubs, make a fresh start in the spring-time, and are usually very luxuriant; but these also, in the summer, when there is little rain and hardly any dew, generally cease to grow. Young shoots often reach a man's height and the thickness of a finger by June, and in the second year have frequently a considerable crown of foliage. The kernels of stone-fruit

which have been planted in the spring soon sprout, and can often be grafted in the second year. A seedling of our common Cypress (*Cupressus pyramidalis*, Targ. Toz.) reached a height of 12 feet in the fourth year. It is also remarkable that in the Crimea the Stock-Gilliflower can frequently winter out, a circumstance of only occasional occurrence with us.

With respect to culinary vegetables, they appear in general not to flourish on the southern coast. They are not so delicate as the different kinds of cabbage at home. Spinach is very bad. Lettuce must be sown in autumn in order to have heads in the spring. If it be sown in February and March, it will spring up, but at the same time bear a stalk. Peas and beans only succeed in very moist situations, and artificial irrigation is of very little use. All the turnip family rise out of the ground, and only produce inconspicuous and generally woody roots. This is especially the case with the carrot. In order that vegetables should succeed, the earth must be thoroughly manured: according to Mr. Rögner it ought not to contain less than three parts of manure.

It will not prove uninteresting if I here give a list of all the shrubs and trees which are foreign to the Crimea, but have been cultivated to a great extent in the grounds and parks. The list includes many which cannot stand in the open air in north and central Germany. I have also added some herbaceous plants, as they embellish several of the groups, and more or less thrive in the climate of the southern coast. In

order to show distinctly which parts of the world have more especially contributed their share, the native country of each plant is given after the name. Trees growing wild in Germany, but not natives of the Crimea, are also included. It must be understood that many of them, especially among the tropical plants, are protected during winter.

I.—MAGNOLIACEÆ.

1. *Magnolia grandiflora*, *L.* North America.
2. ——— *macrophylla*, *Mich.* "
3. ——— *obovata*, *Thunb.* Japan.
4. ——— *fuscata*, *Andr.* China.
5. ——— *umbrella*, *Desc.* North America.
6. ——— *acuminata*, *L.* "
7. *Illicium anisatum*, *L.* Japan. " China.
8. *Liriodendron tulipiferum*, *L.* " "

II.—ANONACEÆ.

9. *Asimina triloba*, *Dun.* Pennsylvania. Florida.

III.—MENISPERMEÆ.

10. *Menispermum Canadense*, *L.* North America.
11. *Cocculus laurifolius*, *Dec.* East Indies.

IV.—BERBERIDEÆ.

12. *Mahonia trifolia*, *Schult.* Mexico.
13. ——— *fasciculata*, *Sims.* New Granada.
14. ——— *diversifolia*, *Sweet.* La Plata.
15. *Berberis iberica*, *Stev.* The Caucasus.
16. ——— *vulgaris*, *L.* Europe. The East.
17. *Epimedium pinnatum*, *Fisch.* .. Persia.

V.—RANUNCULACEÆ.

18. *Clematis florida*, *Thunb.* Japan.
19. ——— *azurea*, *Sieb.*, *β grandiflora* "

20. *Clematis odorata*, *Wall.* East Indies.
 21. ——— *himalaica* ? (*nepalensis*, *D. C.*, or *montana*, *Buch. ?*)
 22. *Pæonia moutan*, *Sims.* China.

VI.—TAMARICEÆ.

23. *Tamarix tetrandra*, *Pall.* Southern Russia.

VII.—CISTINEÆ.

24. *Cistus laurifolius*, *L.* Spain.

VIII.—CRUCIFERÆ.

25. *Iberis sempervirens*, *L.* Southern Europe.

IX.—TERNSTROEMICEÆ.

26. *Aristolelia Macqui*, *L'Herit* Chili.
 27. *Gordonia lasianthus*, *L.* North America.
 28. ——— *pubescens*, *Lam.* Carolina.
 29. *Stewartia malachodendron*, *L.* .. North America.
 30. *Camellia reticulata*, *Lindl.* China.
 31. ——— *Japonica*, *L.* Japan.
 32. *Thea bohea*, *L.* China. Japan.
 33. ——— *viridis*, *L.* China.

X.—STERCULIACEÆ.

34. *Sterculia platanifolia*, *L. fl.* China. Japan.

XI.—AURANTIACEÆ.

35. *Citrus aurantium*, *L.* North Africa.

XII.—MELIACEÆ.

36. *Melia azedarech*, *L.* The East. East Indies.
 37. ——— *azadirachta*, *L.* East Indies.

XIII.—PITTOSPOREÆ.

38. *Pittosporum tobira*, *Ait.* China. Japan.

XXIV.—ANACARDIACEÆ.

52. *Rhus cotinus*, *L.* { The East.
East of Europe.
53. — *coriaria*, *L.* The East.
54. — *typhina*. North America.
55. *Pistacia terebinthus*, *L.* { The East (southern
portion).
East of Europe.

XXV. JUGLANDEÆ.

56. *Pterocarya caucasica*, *Kunth.* .. . The Caucasus.
57. *Juglans regia*, *L.* { South of Europe.
The East.

XXVI.—MIMOSEÆ.

58. *Acacia Julibrissin*, *Willd.* .. . The East.
59. — *farnesiana*, *Willd.* .. . West Indies.
60. — *dealbata*, *Lk.* .. . New Holland.
61. — *cavenia*, *Bert.* .. . Chili.
62. — *acanthocarpe*, *Willd.* .. . New Granada.

XXVII.—CÆSALPINEACEÆ.

63. *Cercis siliquastrum*, *L.* { East of Southern Eu-
rope.
64. — *Canadensis*, *L.* North America.
65. *Gymnocladus Canadensis*, *Lam.* "
66. *Ceratonia siliqua*, *L.* { South of Europe.
North Africa.
67. *Cassia marylandica*, *L.* North America.
68. — *tomentosa*, *L.* South America.
69. *Gleditschia caspica*, *Dsf.* The East.
70. — *triacanthos*, *L.* North America.
71. — *sinensis*, *Lam.* China.

XXVIII.—PAPILIONACEÆ.

72. *Edwardsia microphylla*, *Salisb.* .. . New Zealand.
73. — *grandiflora*, *Salisb.* .. . ,

- XXIX.—AMYGDALÆ.

- ### XXX.—ROSACEÆ.

- | | | | |
|------|----------------------------------|-------|-----------------------|
| 95. | <i>Rubus rosæfolius, Sm.</i> | .. .. | The Mauritius. |
| 96. | <i>Rosa semperflorens, Curt.</i> | .. .. | East Indies. |
| 97. | — <i>sempervirens, L.</i> | .. .. | South-east of Europe. |
| 98. | — <i>noisettiana, Red.</i> | .. .. | East Indies. |
| 99. | — <i>Grevillei, Hook.</i> | .. .. | China. |
| 100. | — <i>Banksiæ, R. Br.</i> | .. .. | " |
| 101. | — <i>bracteata, Roxb.</i> | .. .. | " |
| 102. | — <i>indica, L.</i> | .. .. | China. East Indies. |
| 103. | — <i>thea, Hort.</i> | .. .. | East Indies. |
| 104. | — <i>involucrata, Roxb.</i> | .. .. | " China. |
| 105. | — <i>moschata, Att.</i> | .. .. | The East. |

149. *Bupleurum fruticosum*, L. { Southern Europe.
North Africa.

XIV. — *Ericaceae*

150. *Ancuba japonica*,
 151. *Benthania fragilis*,
 152. *Lonicea pentacyclon*,
 153. ——— *capitata*,
 154. ——— *conspersa*,
 155. ——— *conspersa*,
 156. *Symplocarpos virginica*,
 157. *Viburnum opulus*,
 158. ——— *luna*,
 159. ——— *tucana*,

XV. — *Urticaceae*

160. *Campocoma pyramidalis*,
 161. *Truncatum vermicum*,

XVI. — *Urticaceae*

162. *Karwinskia indica*,
 163. *Bambusa bambusa*,
 164. *Martiana indica*,
 165. *Hypericum elatum*,
 166. *Salvia veronica*,
 167. ——— *thymus*,
 168. *Lonicera reticulata*,

XVII. — *Urticaceae*

169. *Vaccinium leucocarpum*,

XLIX.—ERICACEÆ.

170. *Rhododendron ponticum*, *L.* { The Caucasus.
Asia Minor.
171. ————— *maximum*, *L.* .. North America.
172. *Azalea pontica*, *L.* { The Caucasus.
Asia Minor.
173. ——— *viscosa*, *L.* North America.
174. ——— *nudiflora*, *L.* ”
175. *Arbutus unedo*, *L.* { Southern Europe.
The East.
176. *Erica arborea*, *L.* ”
177. ——— *carnea*, *L.* Southern Europe.
178. ——— *mediterranea*, *L.* ”

L.—AQUIFOLIACEÆ.

179. *Ilex aquifolium*, *L.* { Western and Southern
Europe. The East.

LI.—EBENACEÆ.

180. *Diospyros lotus*, *L.* The East.
181. ——— *kaki*, *L. fil.* Japan.

LII.—MYRSINÆ.

182. *Myrsine Africana*, *L.* { South Africa.
Abyssinia.

LIII.—APOCYNÆ.

183. *Arduina ferox*, *E. Mey.* South Africa.
184. *Vinca major*, *L.* Southern Europe.
185. *Nerium oleander*, *L.* ”
186. ——— *odorum*, *Ait.* East Indies.

LIV.—OLEACEÆ.

187. *Fraxinus excelsior*, *L.* Europe.
188. ——— *oxycarpa*, *Willd.* The Caucasus.
189. ——— *heterophylla*, *Vahl.* .. North America.

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|------|--|---------|---------------------------------|
| 190. | <i>Fraxinus ornus, L.</i> | | { Southern Europe.
The East. |
| 191. | <i>Syringa vulgaris, L.</i> | | East of Europe. |
| 192. | —— <i>chinensis, Willd.</i> | .. .. . | China. |
| 193. | —— <i>persica, L.</i> | .. .. . | Persia. |
| 194. | —— <i>Josikae, Jacq. fil.</i> | .. .. . | Hungary. |
| 195. | <i>Ligustrum lucidum, Ait.</i> | .. .. . | China. |
| 196. | —— <i>italicum, Mill.</i> | .. .. . | Italy. |
| 197. | <i>Olea fragrans, Thunb.</i> | .. .. . | China. Japan. |
| 198. | —— <i>Europeæ, L.</i> | | { Southern Europe.
The East. |
| 199. | <i>Phillyrea angustifolia, L.</i> | .. .. . | Southern Europe. |
| 200. | —— <i>media, Lk.</i> | | ” |
| 201. | —— <i>latifolia, L.</i> | | ” |
| 202. | <i>Fontanesia phillyreæoides, Lab.</i> | | Syria. |

LV.—JASMINEÆ.

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|------|-------------------------------|---------|--|
| 203. | <i>Jasminum fruticans, L.</i> | | { Southern Europe.
North Africa.
The East. |
| 204. | ———— <i>humile, L.</i> | | |
| 205. | ———— <i>grandiflorum, L.</i> | .. .. . |  |
| 206. | ———— <i>revolutum, Sims.</i> | .. .. . | East Indies. |
| 207. | ———— <i>officinale, L.</i> | .. .. . | „ |
| | | | Southern Europe. |

LVI.—POLEMONACEÆ.

208. *Cobaea scandens*, *Cav.* Mexico.

LVII.—SOLANACEÆ.

209. *Solanum pseudocapsicum*, L. .. Madeira.
210. *Cistrum Parqui*, L. Chili.

LVIII.—BIGNONIACEÆ.

211. *Tecoma radicans*, *Juss.* North America.
212. ——— *capensis*, *G. Don.* South Africa.
213. *Æscynanthus grandiflorus*, *Sprengr.* Bengal.
214. *Bignonia capreolata*, *L.* North America.
215. *Catalpa syriaca*, *Sims.* „

231. *Elæagnus hortensis*, *Bieb.* The East.

LXVI.—Tymelæacæ.

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|------|----------------------------|---------|------------------|
| 232. | <i>Daphne laureola, L.</i> | | Southern Europe. |
| 233. | — <i>cneorum, L.</i> | | " |
| 234. | — <i>odora, Thumb.</i> | | Japan. |
| 235. | — <i>hybrida, Sweet.</i> | .. .. . | Country unknown. |
| 236. | — <i>collina, Sm.</i> | .. .. . | Italy. |
| 237. | — <i>olevides, L.</i> | .. .. . | The East. |
| 238. | — <i>pontica, L.</i> | | " |

LXVII.—GARRYACEÆ.

239. *Garrya elliptica. Dougl.* California.

LXVIII.—MOBÆ.

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|------|---|---------|--------------------|
| 240. | <i>Morus alba</i> , <i>L.</i> | | The East. |
| 241. | — <i>multicaulis</i> , <i>Perrot.</i> | | Country unknown. |
| 242. | — <i>nigra</i> , <i>L.</i> | | { Southern Europe. |
| | | | { The East. |
| 243. | — <i>rubra</i> , <i>L.</i> | .. .. . | North America. |
| 244. | <i>Broussonetia papyrifera</i> , <i>Vent.</i> | .. | Japan. |
| 245. | <i>Ficus carica</i> , <i>L.</i> | .. .. . | { Southern Europe. |
| | | | { The East. |

LXIX.—CELTIDÆ.

- | | | | |
|------|-----------------------------|---------|---------------------------------|
| 246. | <i>Celtis australis, L.</i> | | { South of Eastern Eu-
rope. |
| 247. | — <i>Tournefortii, Lam.</i> | | |
| 248. | — <i>occidentalis, L.</i> | | North America. |

LXX.—UIMERA.

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|------|-----------------------------|----|----|----|---------|-----------|
| 249. | <i>Ulmus campestris, L.</i> | .. | .. | .. | Europe. | The East. |
| 250. | —— <i>effusa, Willd.</i> | .. | .. | .. | ” | ” |

LXXI.—EUPHORBACEÆ.

251. *Buxus sempervirens*, *L.* { South Europe.
The East.
252. ——— *Balearica*, *Lam.* Balearic Isles.

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|------|---------------------------------|---|
| 265. | <i>Pinus sabiniana</i> , Dougl. | California. |
| 266. | — pinea, L. | { Southern Europe.
The East. |
| 267. | — Canadensis, Ait. | North America. |
| 268. | — Nordmanniana, Lev. | The Caucasus. |
| 269. | — Sibirica, Fisch. | Siberia. |
| 270. | — cedrus, L. | Syria. Asia Minor. |
| 271. | — pinsapo, Steud. | Spain. |
| 272. | Cunninghamia lanceolata, R. Br. | China. |
| 273. | Arucaria excelsa, Ait. | New Caledonia. |
| 274. | —— imbricata, Pav. | Chili. |

LXXVIII.—CUPRESSINEÆ.

275. *Juniperus communis*, L. . . . Europe. The East.
 276. ———— *Virginiana*, L... .. North America.
 277. ———— *Chinensis*, L. . . . China.
 278. *Cupressus pyramidalis*, Targ. Toz. { Southern Europe.
 { The East.
 279. ———— *horizontalis*, Mill.. .. "
 280. ———— *expansa*, Targ. Toz. . . "
 281. ———— *pendula*, Thunb. . . Japan.
 282. *Taxodium distichum*, Rich. . . North America.
 283. *Thuja occidentalis*, L. . . . "
 284. ———— *orientalis*, L. . . . China. Japan.

LXXIX.—TAXINEÆ.

285. *Podocarpus elongatus*, *L'Herit.* .. South Africa.
286. ——— *macrophyllus*, *Wall.* .. Japan. China.
287. *Ginkgo biloba*, *L.* Japan.
288. *Taxus baccata*, *L.* Europe. The East.
289. ——— *Hibernica*, *Hook.* Ireland.

LXXX.—PALMÆ.

290. *Phoenix dactylifera*, L. North Africa. Syria.

LXXXI.—SMILACEÆ. .

291. *Smilax excelsa*, L. The East.
 292. *Ruscus aculeatus*, L. Europe. The East.
 293. ——— *hypoglossum*, L.. . . . { Southern Europe.
 { The East.
 294. ——— *hypophyllum*, L.. . . . ,

LXXXII.—ALOINÆ.

295. *Aloë margaritifera*, *Ait.* South Africa.
296. *Yucca filamentosa*, *L.* Virginia. Carolina.
297. ——— *gloriosa*, *L.* " "

LXXXIII.—AGAVEÆ.

298. *Agave Americana*, L. South America.

LXXXIV.—AGAPANTHÆ.

299. *Phormium tenax*, *Forst.* New Zealand.
300. *Agapanthus umbellatus*, *L'Herit.* South Africa.

LXXXV.—AMARYLLIDÆ.

301. *Alstroëmeria ligtu*, *L.* Chili. Brazil.
302. ————— *psittacina*, *Lehm.* . . Brazil.

LXXXVI.—GRAMINEÆ.

303. *Arundo donax*, L. {Southern Europe.
The East.

I must also mention that I have made the above list, assisted by Messrs. von Hartwiss, Rögner, Kehbach, and Marko. I myself doubt very much if several among the number, even when protected, can stand the winter.

II.

CLIMATE, SOIL, AND VEGETATION OF SOUTHERN RUSSIA.

The three zones in the East of Europe — Steppes — Deserts — Meadows — Pastures — Pampas — Conditions of the soil — Uniform plains — Substratum of granite — Chalk-formation — Steppe limestone — Temperature — Precipitations — Great drought — The four seasons — Snow-drifts — Snow-showers — Tumuli — Vegetation — Feather-grasses — Pampas plants in general — Steppe vegetation — Tall herbaceous plants — Burjan — The Steppe-Jumper — Low herbaceous plants.

THE climate and soil of Southern Russia are so peculiar that it is as well to devote a few words to the subject. A plain stretches from the centre of Germany to the Ural Mountains, which increases in breadth towards the north and south, and thus forms a triangle of which the mountain range represents the base. There are some low hills to the north, and a few insignificant heights in the north-east, but at their greatest elevation they scarcely attain more than a thousand feet above the level of the sea, and such can hardly be reckoned over an extent of 40 degrees of longitude and the same of latitude. In most parts the surface is undulating, but even then the hills and plateaus are not more than several hundred feet above the sea, and in some parts there is a perfectly level plain.

To the north of this wide plain are great forests, parts of which have not been cleared for several centuries, though a certain portion is now undergoing the

process of clearing. The ground is there covered with a thick layer of mould, and the climate is nearly as variable as that of Germany. Towards the east and south the forests diminish, so that in the 50th degree of north latitude, in the meridian of the Black Sea, scarcely any thicket or wood is to be seen. Farther east the forest does not stretch so far in a southerly direction ; its limit beginning there at the 55th degree of north latitude.

It cannot be doubted that the bare, woodless condition of the South, during the long period since the creation of man, has always been the same, and has gradually produced the peculiar features which now distinguish New Russia, the country of the Don Cossacks, Cis-Caucasus, and the lower Volga provinces.

The people inhabiting these regions were often compelled to change their residence, as the same spot was unable long to support both men and cattle. Agriculture only prospers after the lapse of several years, so it is evident that nomades alone could live here.

It is quite otherwise in the central districts, where the forest and woodless districts border upon one another, and form a zone in which neither one nor the other predominate. The diligence of man has gradually gained on the territory of the forest zone in the north and the woodless zone in the south ; and this central zone, where cultivation chiefly flourished, and which on that account was inhabited by an agricultural population, became larger in extent. The northern forest zone was not without its peculiar characteristics, which also

induced the inhabitants to select the peculiar mode of life which was adapted to it. The forests offered no better field for agricultural improvements than the woodless regions, but were the resort of game and other animals, on which account the men dwelling within them necessarily became hunters.

Bearing in mind the particular object of this book, I shall especially turn my attention to the southernmost of the three zones, through a great portion of which I travelled. Open woodless tracts covered with tall herbaceous plants are called Steppes, but this name has latterly been falsely given to barren tracts in general, or to salt and other deserts. The term *Steppe* is of Russian origin, and is employed to designate a state of vegetation such as is almost unknown in Germany, but which is frequently met with in the east of Southern Europe, in Siberia, and Armenia. Steppes, however, are not everywhere found in these countries, but alternate in some places with pampas and deserts, and in others with meadows. It is therefore necessary to have a distinct idea of the meaning of the terms *Steppe*, *Meadow*, *Pampas*, and *Desert*, before we can speak of them in general.

By *Deserts* we understand the larger or smaller tracts of land, where few or none of those conditions exist under which plants can flourish. We are only acquainted with a few peculiar plants which are especially organised for these barren districts. They have all a spreading growth (suarrose), and are generally more or less woody, especially at the base. They

have fewer leaves than among plants of similar kinds elsewhere, and they have a greyish-green colour. Annuals are rare, and trees are never seen. In deserts situated within the temperate zone the vegetation is alike throughout the year; it is scarcely fresher in the spring, though in hotter latitudes somewhat greener during the rainy season. A desert may arise from a stony soil, from drifting sand, or from the predominance of some ingredient in the ground which is noxious to vegetation, all which give origin to stony, gravelly, sandy, and finally salt deserts. As far as I am aware, we only meet with salt deserts in the country belonging to the third or southern zone; while sandy deserts occur beyond the Caspian Sea; gravel deserts, *e.g.* in Asia Minor, the Western Katakekau-mene, which was known even to the ancients; and stony deserts have been principally noticed in Arabia and the Sahara. The salt deserts on the lower Kuman, on the Manytsch, Elton Lake, &c., are not so often denominated Steppes by the Russians as Solnije, a word corresponding to our expression salt desert. Göbel did not, as he says, travel in the Steppes of Southern Russia, but principally in the salt deserts.

Steppes, Meadows, and we may add Pastures, are the very opposite extreme of all kinds of Deserts. A Steppe answers to a forest, only that the plants have a more woody growth in the latter case, while in the former they are of a herbaceous character. In the forest, as in the Steppe, plants of considerable size may be seen which do not branch at the base, but

above the first third of the stem. In the same manner smaller bushes frequently grow on the steppe as underwood in the forest, which surrounds the trunks of the trees, though generally flourishing most at the borders of the district; there are besides smaller weeds, of 1 and 2 feet high, growing beneath the larger plants, which last are as tall as 6, 8, and even 10 and 12 feet. I never witnessed the plants of 20 and 30 feet high mentioned by some travellers in the steppes, so that it is probable that they were mistaken.

These Steppes are somewhat equivalent to the American Savannas. But the plants there grow more densely, and have a greater equality in height; at least the difference is not so marked between the tall and short herbaceous plants. Individual plants sometimes attain the height of 3 or 4, 6 and 8, or even 10 and 12 feet. In the first case the Savannas pass into meadows. The North American Prairies, as they are described in Canada, may partly be included among these, and partly among genuine meadows. Washington Irving's prairies are true savannas. These, however, are quite distinct from steppes, as they exhibit a considerable number of small groups of shrubs; and grasses take a more prominent position. Shrubs are not absolutely wanting in the steppes, though they do not form groups, but rather underwood, and principally appear on the borders. In the genuine steppe the grasses play a subordinate part, and none of the species of *Poa*, *Festuca*, and *Bromus* (the Feather-grasses), grow to any height.

All the plants which grow in the Meadows are nearly equally tall, varying from $1\frac{1}{2}$ to 3 feet, and very few above this. There is a great prevalence of the Grasses, Papilionaceæ, Compositæ, and Bell-flowers. Their branches are small, and do not spread (are not squarrose). The ground is so thickly covered by these plants that it is entirely concealed. If anything falls upon a meadow, it rests on the lower root-leaves, especially those of the grasses. This is not the case in steppes, even in those where the vegetation grows most densely, for there lighter objects immediately touch the ground, and where the plants grow less thickly the earth is quite visible to the eye.

Pastures have a close relationship with Meadows. Here the herbaceous plants grow still more densely, and are even lower. Most of them branch in innumerable ramifications from the root, but the branches are short, frequently divided, and generally all bear blossoms, so that neither steppes nor meadows can be compared with these last in splendour of colour. The steppe and meadow, besides, have a fixed time when they exhibit the largest number of flowers, generally late in spring. This, however, is not the case with the pastures, where there is a great alternation of season for the blossoming of their plants. Pastures are chiefly found in higher mountain regions, particularly on the ridges of mountains, and frequently in the neighbourhood of glaciers; they, however, also descend into the plain, *e.g.* on the south-east of the Caucasian mountain range.

By the terms Pampas and Slanos we originally understand the great plains at the estuary and to the south of the Rio Plata as far as the 40th degree of latitude, as well as the enormous tracts in Guiana, and elsewhere in tropical America. During a certain period of the year these plains enjoy a more or less fresh vegetation; but when those conditions fail under which plants alone can flourish, they form a wilderness, rendered still more desolate as there is hardly a plant to be found upon them. Even actual deserts do not present an image of such total absence of vegetation as for nine months of the year is prevalent over the pampas. There cannot be a more mournful, nay, even dangerous abode than the pampas and slanos during the dry season. All life seems extinct. The ground, which has not a sign of moisture, contains the buds, in the form of bulbs, or tubers, or Rhizomas, which, whenever the nourishing moisture does make its appearance, quickly push forth leaves, flowers, and fruit, and afterwards resume their nine months' sleep.

I have already pointed out that to the south of Russia, in the third woodless zone, we principally find Steppes, but also Pampas and Salt Deserts. Of course conditions of vegetation also exist where neither character is perfectly imprinted. Such conditions may frequently be observed on the borders of the respective districts. For instance, in South Russia we find pampas where during the dry-season all vegetable life is not completely stifled. This is the case, for example, in the plain of the Noghais (in a re-

stricted sense), or in the continental part of the Taurian government.

These conditions of vegetation (when they have not been altered by the hand of man) partly depend on the ground and partly on the influence of climate. If we regard the soil of Southern Russia from a nearer point of view, we shall find that no revolutions effected by subterraneous agencies seem to have altered the surface of the ground. Except a single strip of granite, stratified rock, which does not belong to a very ancient formation, properly forms the solid covering of the ground. A clayey alluvium in general rests on this, which again is covered by a more or less thick layer of vegetable mould. In some places in the south, sea-sand rests upon the solid rock, continuing towards the interior, but there appears covered by alluvium and vegetable mould.

It is now known that the opinion formerly entertained of the existence of veins and lymphatic vessels in the interior of the earth, similar to the human body, is not founded on scientific researches. On the contrary, the water in the interior of the earth is dependent on rain, and on the amount of precipitations from the atmosphere. Where there is but little rain, there are few or no springs; and during the season when but a very slight amount of rain has fallen, the springs flow still more scantily. Springs can only exist where the ground is porous, and contains cavities in the interior where the reservoirs of water can collect. The land must also be undulating, or rather mountainous, in

order that the water which gathers in more elevated positions, after receiving a pressure from above by an additional fall of rain, may flow to lower spots; in other words, appear on the surface of the earth as springs, and feed brooks and rivers, thus serving to increase their volume of water. Where these conditions do not exist, there will always be a scarcity of water.

If we cast a glance over Southern Russia, we see one uniform and nearly uninterrupted plain, at its greatest elevation not exceeding several hundred feet, and in general only a very few feet, above the sea. The difference of level is so trifling, that there can never be sufficient accumulation of water, even in the most porous soil, to give origin to springs throughout the year which might make their appearance in depressions of the ground. The highest point in Southern Russia, between the Pruth and Dnjestr and the Volga, is Bagdo, a small hill not above 240 feet high. The variation in the height of the ground rarely amounts to more than between 30 and 60 feet.

Besides this, the internal cracks and cavities where water might collect are wanting. All the rain which does not immediately evaporate runs down and gathers upon the hard rock. The lower this is situated, so much the more water can collect, and still better can the rock resist the desiccating influence of the atmosphere. It is not difficult to perceive how desirable it is that as much water as possible should penetrate, when we observe that in some districts a year or more

may frequently elapse without a drop of water falling to the ground. In general it only rains in spring and autumn, and snows in winter ; most of the warm season, from the end of May to the middle of September, is entirely without rain.

If we reflect that the earth is so warmed and parched by the constant heat of the sun at that season (chiefly from the middle of June till August), that a continually ascending current of air (never entirely saturated with vapour) rapidly absorbs the moisture from the neighbouring sea, and keeps the clouds arising from it at such a height that they can form no precipitate, and if we besides know that the ascending warmer air is replaced by that proceeding from the north-east and east, which does not appear to contain any vapour, we shall, on the one side, comprehend the unavoidable dryness of the air, and, on the other, the manner in which it is imparted to the soil. This dryness is augmented according to the greater sterility of the soil, and the smaller number of plants by which the ascending current of air is diminished ; and, on the other hand, is lessened in proportion as the alluvium and the vegetable mould increase and support a more vigorous vegetation. In the former case, the vegetation constitutes what I denominate Deserts and Pampas, and in the latter Steppes.

I have already mentioned that, in accordance with the researches hitherto made, the rocky surface of the ground in Southern Russia consists of granite or of limestone. The last either belongs to the chalk forma-

tion, or to a very modern epoch, the so-called steppe-limestone. The rock beneath the alluvium and the vegetable mould also exerts an influence which must be taken into account. First with respect to the granite: as I have already said, it forms a narrow strip, which commences at the Sea of Azov, on the right bank of the Berda, near the eastern frontier of the plain of the Noghais, continuing in a north-westerly direction towards Volhynia and Podolia, and causes the rapids on the banks of the Dnjepr, south of Kiev.

This granite certainly bears marks of subterranean revolutions, and at the rapids or waterfalls of the Dnjepr appears in the form of breccia. Where it has protruded, its contortions form clefts and cavities on the surface, where water might and certainly would collect, were not the clefts situated lower than the depressions in the ground, on which account the accumulations of water only appear partially on the surface of the soil to benefit vegetation, and doubtless flow in subterranean cavities to the sea and to larger rivers which have a deep channel. Wherever the granite appears, the surface of the ground is in general uneven, and the depressions bear a greater resemblance to valleys, with here and there projecting rocks, or smaller fragments of rock covering the ground. Where the last occurs, a slight weathering is perceptible, and the vegetation is poor. It is better where a bed of gray, yellow, or reddish clay, impregnated with salt, that is to say, culinary salt or

saltpetre, is to be found mixed with alluvial formations, and even with vegetable mould. The thicker this bed becomes, so much the better thrive the plants. In general we do not find luxuriant vegetation on a soil with a substratum of granite, the plants usually attaining a very moderate height, and not growing close together. The Russian considers it a cold soil, and ascribes its want of fertility to this circumstance.

The chalk formation is principally developed to the east of the granite band, and upon the Berda river in several places surrounds the latter. It spreads over the whole of the Ukraine, where it produces small forests, and the soil is very suitable for agriculture. Farther east it traverses the country of the Don Cossacks. This fruitful soil has one peculiar stratum, which in many places attains a very great thickness, named "Tshernosom" (black earth) by the Great Russians, but by the Little Russians "redziva." It chiefly consists of vegetable mould, with a small portion of rich clay, and it has a black colour; but unfortunately it dries very quickly, and splits into angular fragments. It reabsorbs moisture with equal rapidity, and, when there is a superabundance of water, is converted into a dark slush. Its fertility is augmented by a small admixture of saltpetre. The chalk-limestone is more or less porous, in some measure receiving moisture from the upper bed, and springs are now and then formed. As the rock crumbles very easily, the water of these springs and brooks is often thick and milky.

The Russians call them *Maloshnaja Räki*, that is to say, milk-brooks.

The largest extent of steppe-limestone is to the south, where it is principally seen in the western portion of the Noghai plain, in the Crimea, and still farther west of the Dnjepr, over the whole territory of Kherson, as far as the south of Podolia and the Dnjestter. In the opposite direction this formation extends to the north of the Caucasus, where the ground is undulating; but in the other districts I before mentioned it forms one uniform plain, with scarcely an interruption. It is covered by a bed differing in thickness, the lower part of which appears to consist of clay and vegetable mould, but in the upper part of the last alone. There is frequently a bed of sand between the steppe-limestone and the solid stratum immediately above: this is genuine sea-sand of the latest period, and sometimes appears upon the surface. The upper vegetable mould is occasionally replaced by a little clay and a still smaller amount of sand; it contains some saltpetre, has a black appearance, and is remarkably fertile, usually supporting luxuriant steppe-vegetation. This uppermost bed immediately on the surface bears a strong resemblance to the "*Tshernosom*," or black earth, but differs from it by not crumbling into angular fragments when dry, but into a fine dust, which becomes quite insufferable in hot weather.

With respect to climate, the woodless zone is distinguished by extremes of temperature. While the mean annual heat is generally between 6° and 8° , in

some spots which are particularly favourable to the development of heat the mercury rises to 32° and even higher; whereas, on the other hand, and sometimes in the very same spots, it sinks in winter to 26° or 28° below zero. In January the country north of the Black Sea is identical in temperature with Stockholm, namely, the average heat of the month is 4° R. below zero; in July, on the other hand, the climate of this country resembles that of Madeira, the average heat being $+18^{\circ}$ R.; consequently in the course of the twelve months the region to the north of the Black Sea enjoys a climate which ranges between that of Madeira and Stockholm. The latter city is situated about as many degrees north of this part of the world as Madeira lies south of it. Accordingly the woodless zone of Southern Russia has a range of temperature of twenty-seven degrees of latitude, and we may thus conceive how great an influence so changeable a climate must exercise, especially on vegetation, as well as on organic life in general. This is so much the greater as the changes are often confined to the same day, the first half of the day being such that a light clothing may be worn, and the second rendering it necessary to wrap up in furs.

Great as the extremes appear between heat and cold, the extremes in the amount of what is precipitated from the clouds are as great, and even greater. After what I have already demonstrated it must be evident that the rain here is far less frequent than would be the case under other circumstances in coun-

tries of the same degree of latitude : but we must also notice the great difference between the precipitations during the cold and warm seasons of the year. During the early spring, the latter part of autumn, and the winter, the fall of rain, taken altogether, amounts to 350 and 400 milliomètres ; whereas during the remainder of the warm season it scarcely amounts to 100 and 150 milliomètres. In Berlin the fall of rain during the time first mentioned is as much as 1400 lines, and during that which was last specified 1750 milliomètres. Notwithstanding the northerly situation of Berlin, the quantity of rain which there falls is much greater during the cool season than in the districts north of the Black Sea, and there is even a considerable difference in the warm season of the year.

Unfortunately we do not yet possess any meteorological observations taken during a series of consecutive years in the Crimea and Southern Russia, and no satisfactory calculation of its average climate has yet been determined. There are particular years in which the precipitations are remarkably abundant, and there are others when there are none at all, it neither raining nor snowing. Attentive observers have noticed periods during which, in the course of twenty-two or twenty-three months, not a drop of rain fell to the ground. Sometimes five or six years succeed each other in which there is a good deal of rain, then again follows a longer season of drought. It is precisely this circumstance which renders agriculture on these lands in general, and for the present at least, if not impossible,

yet very precarious. The largest corn-magazines are unable to balance the failure of harvests for many successive years.

Besides this, the quantity of water in the rivers and brooks solely depends on precipitations from the clouds. The great rivers in the spring bring down a quantity of water from the forest and central zones, and often obtain such an ample supply even from the so-called steppe rivers, that is to say, those which derive their origin from the woodless zone, that they overflow their banks and inundate a considerable extent of country. The more the ground is saturated with moisture, so much the longer will it resist the drought, and so much the better be enabled to promote a quicker growth in vegetation. If the inundations have been but slight, or entirely wanting, the steppe rivers also receive small supplies and dry up in an extraordinarily short space of time. When these waters have dried up, there of course follows an entire pause in the growth of vegetation.


Spring only lasts a short time: it often commences in the Crimea as early as the beginning of March, but sometimes much later. Notwithstanding the frequent night-frosts, vegetation is quickly developed, and in the Steppes either gathers strength to resist a long and continuous course of hot weather, or is destroyed in a few months, as in the Pampas. The more densely the ground is covered by plants, so much the longer they remain green; but when they die early, as they do in the Pampas, the ground becomes wonderfully quickly hot.

The heated air then begins to rise from the ground, and continues to do so during the night, almost without intermission. It is precisely because these districts near the Black Sea and the Sea of Azov possess so little vegetation that it scarcely ever rains there throughout the warm season: furious storms often rage over the adjacent seas, the rain pouring down in torrents, but not a drop falls upon the dry land. Sometimes, to reverse the case, clouds of rain collect over the continent, and in the highest regions electrical currents are discharged, but the clouds return to the sea, and, as no warm stream of air rises from this last, the natural tendency of the rain to descend is counteracted. The moisture, too, that has just been generated is often immediately absorbed by the same warm though imperfectly-saturated rising stream of air.

Each successive week during the summer the heat becomes still more insupportable. At first the sky is the clearest blue, and is only a little cloudy above the larger rivers, from which vapours constantly are rising. The clear blue colour, however, soon disappears and daily becomes paler, and that mistiness soon appears which we remark at home during the hot weather, but which in southern regions, especially over deserts, is the ordinary phenomenon, though displayed in a far more decided form. In the same manner the sun, when setting, becomes gradually redder, though it never assumes that dazzling blood-red hue usually seen in Arabia and the Sahara. A hot wind sometimes rises to the north of the Sea of Azov and the

Black Sea, similar to that in Arabia and Sahara, but here it only blows over a narrow strip of ground, and is much less violent. It is more parching than the east wind, and has the most injurious effect on vegetation. The leaves of all plants droop, turn yellow, and are often quite destroyed. It does most injury when it blows over corn-fields. All the waters in the Pampas and in the neighbouring districts are dried up as early as July; in August and the beginning of September there is no water to be found even in the steppes, with the exception, indeed, of the larger rivers. The vegetation in the steppes also gradually disappears, and nothing remains but the stems of those tall herbaceous plants, six or eight feet high, some of which are denominated *burjan* by the Russians, and which are all useful as fuel for the winter.

In the middle of September it begins to be colder weather, and the falling of the wind, even for a short time, in the woodless zones, makes a change in the temperature, and this change is accompanied by renewed vegetation. Not only are the buds formed in the old plants for the ensuing year, but they partly burst, and clothe themselves with a fresh green. In October it rains pretty hard, and the ground is so much softened that it is very difficult to walk upon. In November it becomes colder, and storms arise of which we can form little or no conception: whirlwinds also are frequent, causing great devastation. The winter usually begins in December, though frequently without a single flake of snow. This absence of snow



makes the cold much severer, and especially affects the vegetation, which throughout vast districts dies down to the ground. Again there are winters during which there is a great deal of snow. The storms at this season of the year are far more violent, and are chiefly occasioned by the east and north-east winds, which sometimes blow more than half the year: they often become a hurricane, and raise the dust to a great height into the air, driving it forward in the form of a pillar. It is still worse when snow is lying on the ground, and the whole mass is lifted up by a whirlwind and then driven forwards horizontally. Woe betide the herds overtaken by such a snow-drift (called *samet* by the Russians): the cattle are seized with terror, and scatter in all directions—nothing can be seen, and all is confusion. As this driving snow sometimes lasts for the space of several weeks, though in general not longer than three days, sheep, oxen, and occasionally human beings, lose their homes, and, exhausted with anxiety and hunger, not unfrequently perish with cold. This happens oftenest to sheep that run into the sea, or into some of the great rivers, and are drowned, and still more frequently fall a prey to wolves. Fortunately the shepherds know by signs when a storm is approaching, and remain with their flocks under shelter; but the Tartars leave their cattle in the open air all the winter, exposed to the perils of these snow-storms: we need not therefore wonder if in unfavourable years a third of their flocks and herds perish.

No less dangerous are the snow-showers (*vjriga* in Russian), though there may be little wind, or even a complete calm. Darkness often comes on, scarcely permitting one to see a step in front. Without a good organ of locality, I might almost say instinct, nothing is easier than to lose one's path, and the direction one is going, and to be exposed to the greatest danger. Journeys in winter, especially when the snow has fallen in the south of Russia, are in all ways accompanied with great peril. The villages situated far apart are easily missed, and even when near them the low houses easily pass unnoticed, as they are half buried in the earth, and are therefore called by the Russians "*semljanken*," that is, earth-huts. Prince Woronzoff deserves great credit for having caused pyramids of stones twelve feet high to be erected at short intervals (every verst if I am not mistaken), which point out the direction of the road. I am also inclined to believe that the mounds or tumuli (*mohilli* or *kurgan* of the natives), and the stone steppe monuments of the earlier inhabitants, were chiefly intended for the same purpose. On the north coast of the Black Sea I always found that tumuli and monuments had a definite direction from east to west. As I have mentioned the tumuli, I will cite one peculiarity which has a strong claim on our attention. Up to the present day it was believed that only the stones in these graves were brought from a distant spot, but it appears, from the researches of one who lived many years in these parts, that a large portion of the earth of which the mounds are

composed was not found in the neighbourhood, but was brought from far away. Might not the universal custom among the Don Cossacks of carrying some of their native soil in a small purse upon their breasts, to be placed with them in their grave in case of sudden death, be ascribed to the same religious sentiment towards the clod of earth on which they were born?

Having now pointed out the relations of soil and climate, I will endeavour in a few words to give a more accurate description of the two conditions of vegetation in the Pampas and Steppes of Southern Russia. With respect to the former, their characteristic features are most strongly developed in the western portion of the Noghai plain, which is remarkable for a vegetation that lasts three or four months, and for a series of gregarious plants, growing in groups and pretty close together. In general, there are only between four and eight species which appear alternately, while other plants grow singly, and do not contribute to the physiognomy of the Pampas.

The commonest Pampas-plant is the *Stipa capillata*, L., "Tyrsa" of the Russians, which often occupies more than half the surface of the ground. Next to it comes the closely related Feather-grass (*Stipa pennata*, L.; in Russian, "Schelkowi" trawa, namely, silk-herb), which usually covers a fourth part of the Pampas. Little as these grasses are esteemed with us as fodder for cattle and sheep, they nevertheless form their principal food in the plains of Southern Russia. Both plants have a distinct resemblance in growth to some of the

Orchideæ, which are propagated by pseudo-bulbs, since the young buds only grow in one direction. It appeared to me as if this tendency was dependent on the prevailing winds, as most of those I examined carried their buds on the west and south-west side of the plant. The withered stems and leaves do not immediately drop off, but last for a time, and form a high turf-plot an inch or more above the ground. We see something similar to this in the damp meadows at home among several of the sedges, especially *Carex caespitosa*, L., and *C. acuta*, L.; with this difference—that the new buds in the latter case do not grow on one side and always outwards, but more inwardly. The difference, however, is not very apparent in the formation of new buds in *Scirpus Holoschænus*, L., and other plants. As the attachment of the new buds is tolerably regular on one side, the age of these plants can be determined with tolerable accuracy. Under these circumstances it is not difficult to explain the excess of the turf-plots formed by the Feather-grasses, especially as all other plants are stifled by these last, and even when dead they occupy the same place for several successive years. The inhabitants of those parts are often compelled to get rid of them with the hatchet, and employ them with other materials for fuel.

In July both these grasses bear ripe fruit (seeds, as they are commonly called). At that season they are often a dangerous torment to sheep. The awned seeds attach themselves to the wool, and work their way in, as the animal walks along, till they reach the skin and

produce a constant irritation. During the great heat which is prevalent in the Pampas in the months of July and August, the irritated spots inflame and frequently kill the sheep. To prevent this loss, the shepherd and his whole family are every evening compelled to pick out the seeds. Owing to the number of sheep, as well as plants which produce these noxious seeds, this is a most arduous labour, and it is rendered still more difficult by the awns frequently breaking off, so that it is very troublesome to find the short seeds in the sheep's wool: and, notwithstanding the utmost care, it is impossible always to avoid this evil.

None of the other grasses have such a wide distribution. The few that are more abundant are *Festuca ovina*, L., *Bromus tectorum*, L., *Koeleria cristata*, Pers., and *K. glauca*, Dec.; while those which grow singly and in strips, as well as in groups, are as follows:—*Elymus sabulosus*, Bieb., *Triticum junceum*, L., *T. cristatum*, Schrel., *Crypsis alopecuroides*, Bieb., *Beckmannia cruceiformis*, Host., *Eragrostis pilosa*, Beauv., *Poa collina*, C. Koch (*Eragrostis collina*, Fr.), *P. bulbosa*, L., *P. pratensis*, L., *Bromus sterilis*, L., *B. mollis*, L., *B. squarrosus*, L., and *B. arvensis*, L. Of the Reed-grasses we find *Carex stenophylla*, Wahlenb., *C. divisa*, Huds., *C. Schreberii*, Willd., *C. Schkuhræi*, Willd., *C. tomentosa*, L., and *C. hirta*, L.

With respect to others of the Pampas plants, there are *Dianthus guttatus*, Bieb., *Gypsophila paniculata*, L., *Malva rotundifolia*, L., *Adonis vernalis*, L., *Po-*

tentilla argentea, L., *Leontice altaica*, Pall, *Medicago sativa*, L. (Lucerne clover), *Trifolium repens*, L., *Melilotus officinalis*, Pers., *Falcaria rivini*, Host., *Pimpinella saxifragæ*, L., *Galium verum*, L., *G. Molugo*, L., *G. humi fusum*, Bieb., *Anthemis Cotula*, L., *Achillea gerberi*, Willd., *A. Millefolium*, L., *Gymnocline millefoliata*, C. Koch., *Artemisia austriaca*, Jacq., *A. maritima*, L., *A. pontica*, L., *Linosyris villosa*, Dec., *Inula germanica*, L., *Pulicaria dysenterica*, Grtn., *Taraxum officinale*, Vill., *Sonchus asper*, L., *Centaurea scabiosa*, L., *C. diffusa*, Lam., *Thymus Marschallianus*, Willd., *Salvia nutans*, L., *S. prætensis*, L., *Lamium amplexicaule*, L., *Marrubium peregrinum*, L., *Linaria vulgaris*, Mill., *Euphorbia Gerardiana*, Jacq., *E. tenuifolia*, Bieb., *E. esula*, L., *Statice tatarica*, L., *S. latifolia*, Jell., *Salsola kali*, L., and *Iris pumila*, L., *Tulipa sylvestris*, L., *Tulipa Gesneriana*, L., *Muscari leucophæum*, C. Koch, *Allium rotundum*, L., *A. flavum*, L., and *A. paniculatum*, L.

The genuine steppes, as I before mentioned, are most beautiful in the country of the Don Cossacks and in the Cis-Caucasus. Here the larger plants grow six, eight, and more feet high; so that we can comprehend the tales of the Cossacks, according to which this warlike people were able in their forays to conceal their horses and themselves in the thickets of the steppes. The Russians distinguish the larger plants from the smaller by name. The larger plants afford the cattle little or no nourishment, but their woody stems can be used as fuel in winter. These herbaceous plants

are called Burjan by the Russians, though the name also applies to all the tall weeds which overwhelm and often entirely supplant the cultivated plants in the gardens and fields. We frequently hear complaints about the increase of this burjan, but no pains are taken to eradicate the noxious weeds.

Professor Schleiden, in Jena, in his excellent lectures on the life of a plant, employs the word burjan for a particular plant, namely, *Gypsophila paniculata*, which the Russians, however, do not include under the appellation. The *Gypsophila paniculata*, L., a very well-known steppe-plant, is known by the name of *Perekatipole*, or the Steppe-Jumper, and plays the part of the Rose of Jericho, especially in children's stories. This plant (the *Gypsophila*), which has latterly been used in Germany for nosegays (bouquets), on account of its light appearance and pretty little flowers, branches repeatedly just above the root, so that it forms a close round bush. After it has ceased blowing, it sheds its seeds, the principal stalk breaks off at the base, and the round plant is carried hither and thither by the slightest wind. Other small plants, also withered, become attached to it, and they gradually form a thick ball, which in a strong wind is easily carried over the steppe. This is the Steppe-witch, which brings people good or ill luck. It is, however, not always the *Gypsophila paniculata*, L., which forms this ball, and has given origin to all kinds of tales. The *Phlomis pungens*, Willd., which is indeed heavier, but likewise grows in the form of a round bouquet, is also carried by the

wind through the steppe, and saluted by children as the Steppe-witch.

The principal Burjan or herbaceous plants belong to the families of the Compositæ, Dipsacæ, Umbelliferæ, Malvaceæ, Papilionaceæ, and Labiataæ, but the three first are chiefly represented. Thistles play a prominent part among the Compositæ. It is not the purpose of this book to enumerate all the plants, so I shall be satisfied with naming those which are most widely distributed and peculiarly characteristic of the Steppe, namely, *Echinops sphærocephalus*, L., *Silybum marianum*, Grtn., *Onopordon acanthium*, L., *Carduus crispus*, L., *Epitrachys serrulata*, C. Koch, *E. lanceolata*, C. Koch, *Cirsium arvense*, Scop., *Lappa major*, Grtn., *L. tomentosa*, Lam., *Cichorium Intybus*, L., *Lactuca scariola*, L., *Senecio Doria*, L., *S. macrophyllus*, Bieb., *S. Jacobæa*, L., *S. erucifolius*, L., *Tanacetum vulgare*, L., *Artemisia absinthium*, L., *A. vulgaris*, L., *A. procera*, Willd., *Pyrethrum corymbosum*, Willd., *Xanthium spinosum*, L., *X. strumarium*, L., *Inula helenium*, L., *Galatella punctata*, Lindl.

Of the Dipsacæ I must mention—*Dipsacus laciniatus*, L., *Cephalaria tatarica*, Schrad., and *C. centaureoides*, Coult.; of the Umbelliferæ—*Eryngium campestre*, L., *E. planum*, L., *Libanotis sibirica*, C. A. Mey., *Silaua Besseri*, Dec., *Ferulago sylvatica*, Rchb., *Ferula tatarica*, Fisch., *Peucedanum ruthenicum*, Bieb., *Pastinaca sativa*, L., *Heracleum sibiricum*, L., *H. sphondylium*, L., *Siler trilobum*, Scop., *Anthriscus*

sylvestris, Hoffm., *Chærophyllum bulbosum*, L., *Cachrys crispa*, Pers., *Conium maculatum*, L.; of the Malvaceæ—*Lavatera thuringiaca*, L., *L. biennis*, Bieb., *Althæa officinalis*, L., *A. cannabina*, L., *A. ficifolia*, Cav., *Malva alcea*, L., *M. sylvestris*, L.; of the Papilionaceæ—*Melilotus cærulea*, Lam., *M. alba*, Lam., *M. officinalis*, Pers., *Glycyrrhiza glandulifera*, W. et K., *G. echinata*, L., and *Galega officinalis*, L.; finally, of the Labiatae—*Salvia Austriaca*, L., *S. pratensis*, L., *S. sylvestris*, Koch., *Nepeta pannonica*, L., *N. violacea*, L., *Stachys recta*, L., *Phlomis pungens*, W., *P. tuberosa*, L. Besides these, I must mention among those of other families the several species of *Verbascum* and one *Oenothera biennis*, L.

All the smaller plants, especially those growing on the steppes and meadows, which form the principal fodder for cattle, are named by the Russians "Trava." But if this is meant to designate a weed, that is to say a smaller plant which grows in cultivated land against the will of the owner, they add in Russia the term *durnaja* (i. e. ugly). All the steppe plants under 1½ foot high I designate as low herbaceous plants. Of these we may include among the family of the Cynarocephalæ several of the Knapweeds—*Carduus nutans*, L., *C. acanthoides*, L., *Carlina vulgaris*, *Xeranthemum annuum*, L.; among the family of the Corymbiferae—*Aster amellus*, *Erigeron canadensis*, L., *Linosyris vulgaris*, Cass., *L. villosa*, Dec., *Inula Conyza*, Dec., *I. Oculus Christi*, L., *I. Britannica*, L., *Anthemis ruthenica*, Bieb., *A. Cotula*, L., *Achillea no-*

bilis, L., *A. Gerberi*, Willd., *A. millefolium*, L., *Gymnocline millefoliata*, C. Koch., *Matricaria inodora*, L., *Helichrysum arenarium*, Mnch.; of the Luctucaceæ, chiefly—*Sonchus asper*, Vill., *Taraxacum officinale*, Wigg., *Scorzonera taurica*, Bieb., *Tragopogon major*, L., *T. pratensis*, L., *T. floccosus*, W. et K.

The Labiatae are represented widely by *Mentha sylvestris*, L., *M. pratensis*, Sole., *Origanum vulgare*, L., *Thymus Marshallianus*, Bieb., *T. odoratissimus*, Bieb., *T. nummularius*, Bieb., *T. serpyllum*, L., *Acinos thymoides*, Mnch., *Clinopodium vulgare*, L., *Nepeta cataria*, L., *Glechoma hederaceum*, L., *Dracocephalum Moldavica*, L., *Prunella grandiflora*, L., *P. vulgaris*, L., *Scutellaria altissima*, L., *Marrubium peregrinum*, L., *M. vulgare*, L., *Betonica officinalis*, L., *Stachys recta*, L., *Leonurus cardiaca*, L., *L. marrubiastrum*, L., *Lamium album*, L., *Ballota nigra*, L., *Teucrium chamædrys*, L., *T. polium*, L.

The principal plants of the Papilionaceæ are—*Onobrychis sativa*, Lam., *Coronilla varia*, L., *Vicia Cracca*, L., *V. sepium*, L.; a great many of the Astragali, several of the Medicagi—*Ononis columnnea*, All., *O. hircina*, Jacq.; of the Umbelliferæ—*Trinia kitaibelii*, Bieb., *Falcaria rivini*, Host., *Ægopodium podagraria*, L., *Carum carvi*, L., *Pimpinella saxifraga*, L., *Seseli varium*, Trev., *S. Campestre*, Bess., *S. tortuosum*, L., *Rumia leiogyna*, C. A. Mey, *Cnidium venosum*, Koch, *Daucus carota*, L., *Caucalis daucoides*, L.

Finally, we must name those of the Cruciferæ which in the steppe are low herbaceous plants, namely, *Bar-*

barea vulgaris, R. Br., *B. arcuata*, Rchb., *Lunaria rediviva*, L., *Berteroa incana*, Dec., *Alyssum calycinum*, L., *A. rostratum*, Stev., *A. minimum*, Willd., *Hesperis matronalis*, L., *Sisymbrium officinalis*, Scop., *S. junceum*, Bieb., *S. loeselii*, *S. irio*, L., *S. Sophia*, L., *Erysimum strictum*, Grtn., *E. aureum*, Bieb., *Camelina sativa*, Crantz, *Capsella bursa pastoris*, Mnch., *Lepidium Draba*, L., *L. latifolium*, L., *Sinapis arvensis*, L., *Crambe tatarica*, Jacq., *C. aspera*, Bieb., *Bunias orientalis*, L. (These three last are often included in the appellation Burjan.)

The grasses hold a subordinate position in the steppes. *Saccharum Ravennæ*, Bieb., belongs to the tall herbaceous plants. The others are all low plants, and principally belong to the genera *Lolium*, *Triticum*, *Bromus*, *Festuca*, *Kæleria*, *Poa*, *Phleum*, *Alopecurus*, and others. The species are generally identical with those we find in Germany. I pass over other families, as they have usually few or only single representatives. Those that are most represented are, however, the Chenopodiaceæ, Euphorbiaceæ, Polygoneæ, Plantagineæ, Plumbagineæ, but principally the Asperifoliæ, the Resedaceæ, Geraniaceæ, Malvaceæ, and perhaps the Scrophularineæ.

I have several times had occasion to mention that the woody plants are not entirely excluded from the steppes. The wild Pear-tree is often met with, and is highly considered by the Cossacks. It is the emblem of love, especially of ardent, unrequited love, and is

therefore often celebrated in their poems and songs. I am inclined to regard the Pear-tree as indigenous to South-eastern Russia. It would be worth while to compare it more accurately with our cultivated kinds.

It is a most important fact that the common Pine or Scotch Fir, though only in a dwarfed shrub-like form, grows in the steppe region of the Middle Don. Of the Cupulifereæ we observe *Corylus avellana*, L., *Quercus sessiliflora*, Sm., *Q. pedunculata*, Ehrh., and *Q. pubescens*, Willd., all rare; of the Salicineæ—*Salix alba*, L., *S. amygdalina*, L., *S. viminalis*, L., *S. cinerea*, L., *S. phlomoides*, Bieb., *S. caprea*, L., *Populus alba*, L., *P. tremula*, L., *P. nigra*, L.; of the Betulaceæ—*Betula alba*, L., *Alnus glutinosa*, Willd.; of the Gnetaceæ, *Ephedra vulgaris*, Rich.; of the Moreæ, *Morus tatarica*, L. Most of the shrubs, however, belong to the Papilionaceæ, e.g. *Sarothamnus scoparius*, Wimm., *Cytisus Austriacus*, L., *C. capitatus*, Jacq., *C. supinus*, L., *C. biflorus*, l'Hérit., *C. laburnum*, L., *C. nigricans*, L., *Caragana frutescens*, Dec. One of the principal shrubs is our Blackthorn; there are besides *Prunus padus*, L., *P. chamaecerasus*, Jacq., *Amygdalus nana*, L.; of the Pomaceæ—*Crataegus oxyantha*, L., *C. monogyna*, Jacq., *Cotoneaster vulgaris*, Lindl., *Pyrus malus*, L. (certainly not wild); of the Rosaceæ—*Spiræa crenata*, L., *Rubus cæsius*, L., *R. fruticosus*, L., *Rosa pimpinellifolia*, L., *R. canina*, L., *R. rubiginosa*, L.; of the Rhamneæ—*Rhamnus cathartica*, L., *R. frangula*, L.; of the Anocardiaceæ—*Rhus*

cotinus, L. ; of the Celastrineæ—*Evonymus Europæus*, L. ; of the Tamariceæ—*Tamarix tetrandra*, Pall. ; of the Berberideæ—*Berberis vulgaris*, L. ; of the Acerineæ—*Acer campestre*, L., *A. tataricum*, L. ; of the Solaneæ—*Lycium ruthenicum*, Murr. ; and finally, among the Caprifoliaceæ—*Sambucus nigra*, L., *Viburnum opulus*, L., and *V. lantana*, L.

THE END.

12

